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Essays and Cases.

ART. I.—*A Sketch of the Climate of the Valley of the Mississippi.*—By DANIEL DRAKE, M. D.

The vast extent of the Valley of the Mississippi, necessarily imparts to its climate a diversified character. The new states and territories already organized within its limits, are eight in number; while portions of two of the old states extend into the same region. The new may be divided into warm and temperate. The former are Louisiana, Mississippi, Alabama, in part, and the south half of the Territory of Arkansaw;—the latter, Tennessee, Kentucky, Ohio, in part, Indiana, Illinois, and Missouri. The first group lies between the latitudes of 30 deg. and 60 deg.; the second, extends from the paralell last mentioned, to that of 42 deg. Hence the first division corresponds with South Carolina and Georgia—the second, with North Carolina, Virginia, Maryland, Delaware, Jersey, and the southern part of New York.

In estimating the change of climate, to which emigrants from the old states will subject themselves, in settling in the new, it should be recollected, that Tennessee is in the rear of N. Carolina, and Kentucky of Virginia; and that Ohio, Indiana, Illinois, and Missouri, stretch out behind Pennsylvania, Maryland, Delaware, New Jersey, and the southern part of New York. The New-englander, and Newyorker, north of the mountains of West Point, should bear in mind, that his emigration is not to the *west*, but *south-west;* and as necessarily brings him into a warmer climate, as when he seeks the shores of the Delaware, Potomac, or James' River.

Besides variations of latitude, several causes conspire to produce diversities in climate. Between the lower Mississippi states, and the portions of the old states corresponding with them in latitude, these causes are neither numerous nor powerful; and hence, on the same parallels, their differences of climate, are less, than the differences between the upper states of the great valley, and corresponding portions of the Union, near the sea board. First, the elevation of the land above the surface of the ocean, is nearly the same in Louisiana, Arkansaw, Mississippi, and Alabama, as in Georgia and South Carolina.—Second, their geographical relation to the sea, is similar. Third, neither of them is contiguous to mountains, except the N. W. portions of S. Carolina. Hence the emigrant from the banks of the Santee or Savannah river, to those of the lower Mississippi or Red River, if he keep in the same latitude, will experience but little change of climate. He will observe, however, in his new residence, that N. E. winds, attended with cool rains, are less frequent; and on the contrary, that the S. W. wind is more prevalent and perhaps more humid; as it does not, like that of the country he had left, undergo, to any extent, the modifying influence of the peninsula of Florida. The northern parts of Alabama and Mississippi, are occasionally visited with snows several inches deep, and frosts that congeal the surface; but their duration is transient; while in the southern parts of the same states, in Arkansaw and in Louisiana, these phenomena are much rarer. In their upland parts, these warm states have,

on the whole, winters dry, frosty, and bracing: in the maritime portions, raw, humid, and rainy. In the former, the summers are fair and not intemperate; in the latter, hot, infested with thunder gusts, and often sultry.

The inhabitant of New England, or, indeed, of any of the old states north of the Potomac, who starts on a migration to the states which are bounded on the South by the Gulph of Mexico, should be prepared to encounter a decided change of climate, consisting, in increased heat throughout the year, and, especially, in a prolonged summer; in more copious rains, and a greater prevalence of S. W. winds.

The emigrant from the shores of the Mediterranean, will find in this portion of the valley of the Mississippi, the nearest approach to his own climate, though eight or ten degrees further south; but he should prepare himself for greater extremes between summer and winter, than he has been accustomed to in Italy or the south of France.

The greater emigration to the upper or temperate Mississippi states, than to the lower, renders the study of their climate compared with the Atlantic states and Europe, more interesting than the inquiry through which we have just passed.

As in most cases, it is not less useful to inquire into causes, than to look merely at effects, I shall direct the attention of the Profession, and of those who contemplate an emigration from the Atlantic to the Western states, to some of the physical circumstances which may be presumed to modify the climates of the two regions.

First, the Atlantic states have an ocean on one side, lakes on another, and mountains, between 2000 and 3000 feet high, on a third; the first and last of which, are so contiguous to the emigrating portions of these states, as to exert a decided influence on their climate. On the other hand, the upper or temperate Mississippi states, are remote from the sea, and comparatively remote from mountains, but have on one side, more extensive lakes, than those which skirt the Atlantic states. The ocean lies to the *east* of the latter, and the Alleghany Mountains to the *west*, while the states of the interior, have the lakes to the

north, and the Alleghanies to the *east;* varieties in the physical geography of the two sections, that cannot fail to exert an influence on the temperature and humidity of their winds. Thus the N. E. and S. E. winds of the sea board, are always much more damp than those of the interior. In spring, summer, and autumn, they bring more copious rains, and in winter, deeper snows. They are, also, more frequent and violent, than in the upper Mississippi states. Finally, in winter they are warm; and in summer, as coming from the surface of the ocean, would be more fresh and temperate, than in the valley of the Mississippi, were it not for the Alleghany Mountains, which cool the currents which roll over them to that region. These mountains on the other hand, reduce the temperature and refresh the S. W. and W. winds, which blow from the interior of the continent towards the Atlantic Ocean, and give to the people of the middle maritime states, a succession of less sultry breezes in summer, than envelope their brethren in the west. For a similar reason, the N. W. wind is drier and colder, at the same season, on the leeward, than the windward side of the Alleghanies.

Second, The courses of rivers, by changing, in some degree the direction of the winds, exert an influence on our climates. In the Atlantic states, from New England to North Carolina, the rivers run more or less to the S. E. and deflect the winds which blow from the West; while the great bed of the Mississippi, exerts an equal influence in augmenting the number and steadiness of the winds, which blow over it from the S. W.; and here is another cause of difference in climate, chiefly perceptible, first, in the temperature, which, if no counteracting cause existed, they would raise in the West, considerably above that of corresponding latitudes in the East; secondly, in the moisture of the two regions, which is generally greater, west than east of the mountains, when the S. W. wind prevails, as much of the water with which it comes charged from the Gulph of Mexico, is deposited before it reaches the country east of the Alleghanies.

Third. The great cities of Boston, New York, Philadelphia

and Baltimore, are but a few feet above the level of the sea, and the country connected with them has but little elevation; while the towns which are rising on the banks of the upper Mississippi, the Missouri, Wabash, Ohio, Cumberland and Tennessee rivers, are elevated about 550 feet above the surface of the ocean, and the intervening country, about 250 feet more. The influence of this elevation, so often overlooked in comparing the climate of the Eastern and the Western states, would give cooler summers to the latter than the former, were it not for the greater prevalence of S. W. winds in the region of greater elevation. To estimate the full effect of this superior elevation, it is necessary to refer to the increasing altitude, of the immense, unwooded plain, down which the Missouri flows, from the Chippewan or Rocky Mountains, which themselves rise to the varying height of 5, 6, or 7000 feet, and give to the western winds, which would, otherwise, arrive moist and temperate, from the Pacific Ocean, a decided character of transparency and coldness.

Fourth. The general inclination of the surface of the Atlantic states, is to the E. and S. E.—that of the Mississippi states to the S. Were these angles of inclination great, their effects upon the temperature of the two regions would be decisive; but being slight, the increased heat of the West, from this cause, is not, perhaps, very considerable

Fifth. The West abounds in lofty forests of far greater extent than the East; an element of difference in the climates of the two, the inflence of which must beadmitted, although its exact amount cannot, perhaps be estimated. Forests are said to retard the velocity of the winds, and increase the precipitation of their moisture. It is more certain, that in spring, summer, and autumn, they intercept the rays of the sun, most of which are thus reflected before they reach the surface of the earth, and copious evaporation is thus prevented. They seem, also, to promote the condensation of the vapor, from the surrounding air; and may be considered as one of the causse of the more copious dews, which are said to fall west than east of the mountains.

Such are the leading causes, of any differences of climate,

which may exist between the states which lie on the sea, and those on the upper Mississippi, and its tributaries. These differences, especially in temperature, have been much dwelt upon, ever since the publication of Mr. Jefferson's celebrated Notes on Virginia, in 1781. But as it respects the heat of summer, they have been greatly overrated. Two causes have contributed to augment and perpetuate the error; first, the extensive popularity of Mr. Jefferson's book; secondly, the great number of emigrants from New England and New York, most of whom have been unconscious how much they had changed their latitude in a migration to the interior, and have made reports concerning the heat of the latter, in the same language as if they had travelled on the latitudes on which they were born. As a general fact, the *settlers* from Virginia in Kentucky, and from Maryland and Pennsylvania, in the states north of the Ohio, have not complained of hotter summers, than they had been accustomed to experience in their native land. It is probable, however, that the summer temperature of the West, *is* rather greater than that of the East, in corresponding latitudes; an effect, as far as it exists, to be ascribed chiefly to the greater prevalence of S. W. winds, in the former, than the latter, and to the influence of the Alleghany Mountains, over which those winds must pass to reach the Atlantic states. Both these causes, however, are in a good degree compensated, by the greater elevation of the interior, as already pointed out. So great is the effect of this elevation, that in the middle of the state of Ohio, which it is nearly 1000 feet above the level of the sea, the temperature is probably lower, than in corresponding latitudes of eastern Pennsylvania.

To solve the problem of comparative temperature, accurate cotemporary observations, should be made on compared thermometers, placed under similar circumstances, in a great number of situations; but this has not yet been done. The only points, that admit of a comparison approaching to this, are Cincinnati and Philadelphia, or its vicinity—the former, however, situated about 50 minutes south of the latter.

From a series of daily observations in Cincinnati or its vicin-

ity, for eight successive years, the mean annual temperature has been ascertained to be 54 degrees and a quarter; Dr. Rush states the mean heat of Philadelphia at 52 degrees and a half, Dr. Coxe, from six years observations, at 54 and a sixth, and Mr. Legaux, from 17 years observations at Springmill, a few miles out of that city, at 53 and a third; the mean term of which results, 53 and a third, is but the fraction of a degree lower, than the mean heat of Cincinnati, and actually less, than should be afforded by the difference of latitude.

A reference to the mean temperatures of summer and winter, will give nearly the same results. From nine year's observations, (three at Springmill by Mr. Legaux, and six in Philadelphia by Dr. Coxe,) the mean summer heat of that part of Pennsylvania, appears to be 76 degrees and six tenths. The mean summer heat at Cincinnati, for an equal number of years, was 74 and four tenths. The average number of days, in which the thermometer rose to 90 degrees or upwards, during the same period, was 14, each summer; and the greatest elevation observed was 98 degrees: all of which would bear an almost exact comparison, with similar observations in Pennsylvania. Mr. Legaux states the most intense cold, at Springmill, from 1787 to 1806, to have been 17 and five tenths degrees below cipher—while within the same period, it was 18, at Cincinnati. The average of extreme cold for several years, as observed by Mr. Legaux, was one and eight tenths of a degree below cipher: the same average at Cincinnati, is two degrees below. From all which we may conclude, that the banks of the Delaware and Ohio, in the same latitudes, have nearly the same temperature.

Let us recur to the winds, the great modifiers of climate in every country. I have already referred to the greater prevalence of S. W. winds in the interior—of N. E. and N. W. winds in the maritime states. Not having at hand the materials for an extended comparison, I shall insert a tabular view of observations made at Cincinnati, for six succeeding years, with so few omissions, that they amount to 4209. They have been brought to the eight principal points of the compass; and while they show the relative prevalence of different winds in the succes-

sive months of the year, will furnish data for comparisons between the Western and Eastern states, by those who reside and observe in the latter.

OBSERVATIONS.

	S. E.	S.	S. W.	N. E.	N.	N. W.	E.	W.	Calm.
January	6	2	13	8	1	21	3	6	6
February	5	1	13	8	1	14	0	5	8
March	10	1	16	11	1	10	0	5	4
April	7	0	24	10	1	8	1	3	5
May	7	1	12	10	0	10	1	4	6
June	9	1	93	12	5	7	1	2	3
July	6	1	19	11	2	11	1	4	4
August	6	1	23	10	1	12	1	1	6
September	6	1	23	9	0	8	2	3	3
October	9	1	24	6	1	10	2	4	4
November	9	3	13	6	1	10	2	7	5
December	7	1	11	5	0	15	2	6	9
	87	14	291	106	14	186	16	50	62

From this table it appears, 1. That the different winds of Cincinnati prevail in the following order: south-west—north-west—north-east—south-east—west-east—south and north. 2. That the south-west is the prevalent wind, nine months out of the twelve, viz: from March to November, inclusively. 3. That the N. W. wind prevails in January, December, and February. 4. That the greatest number of calm days are in December and February; the least in June, September, and October; which are equal. 5. That the southern are to the northern winds, as 322 to 256; or about 40 to 32. 6. That the western are the prevalent winds throughout the whole year, being to the eastern as 407 to 200, or merely 4 to 2. 7. That the west wind blows only half as much in the six warmer, as in the six colder months. 8. That the east, south, and north winds are nearly equal.

Most of these deductions are exhibited by the following table, in which the whole number of observations, stated above, are supposed to be represented by 1000, and the subsequent numbers to be its fractional parts.

Mean of 6 year's observations—1000, of which the

South-east make - -	122
South, - - -	19
South-west, - - -	313
Southern, - - -	454
North-west, - - -	192
North, - - -	19
North-east, - - -	150
Northern, - - -	361
East, - - -	22
Eastern, - - -	294
West, - - -	70
Western, - - -	575
Calm, - - -	87

A brief sketch of the character of the principal winds embraced in the tables may be useful to those who purpose to emigrate to the West.

1. *The South-West.* This wind, which, as we have just seen, prevails on the Ohio three fourths of the year, exhibits two different characters, or is divisible into two varieties—the *humid* and the *arid.* The former of these is characterized by prevailing throughout the night; by generally continuing two or three days after its commencement; by alternating with the north-east wind, by sinking the barometer more than any other ærial current; and by always causing clouds and generally rain, which is often profuse. The arid south-west commences between sunrise and 10 o'clock in the morning. It is at first very gentle, and increases in force with the progress of the day, until 4 or 5 o'clock in the evening, when it begins to subside. About sunset it ceases, and the succeeding night is clear and serene. This is the predominant wind in the hottest and dryest weather, with which indeed it is identified in the mind of every observer in the west. Its prevalence, in comparison with the other variety, is, perhaps, as eight or ten to one. It is seldom attended with an atmosphere altogether cloudless, but never produces any other form of rain than a thunder-shower. It sinks the barometer less than the humid south-west, but raises the thermometer higher than any other wind. It is not known

whether at present it prevails more or less than at the first settlement of the western states.

2. *The North-west.* This wind, like that already described, exhibits two varieties, one of which occurs in warm, the other in cool weather. A state of calmness or the dry south-west, generally precedes and follows the former of these varieties. It is the gale which attends thunder-storms, and of course commences to the windward. Its duration is transient, seldom continuing longer than a few hours; and its geographical extent is equally limited. The other, which is the principal variety of north-west wind, begins, it is well known to the leeward; it generally succeeds rain, and may be regarded as the harbinger of fair weather. In spring and autumn, however, it is frequently attended with moderate showers, which seldom continue more than a day; and in winter it produces snows, that are sometimes among the deepest that fall in the valley of the Mississippi.

In common, it does not exhibit any nocturnal intermission, though for the most part it blows with less violence at night than in the day. It is generally followed by a calm, which is succeeded by the south-east or south-west wind. It frequently undergoes a change into the north-east, blowing from every intermediate point of the compass. On the barometer and thermometer it produces effects opposite to those of the south-west wind. The greatest elevation of the former, and depression of the latter of these instruments, hitherto observed at this place, were during the prevalence of this wind. The longer it continues, the lower is its temperature; and when it is not too much reduced, it feels as pleasant as it is uniformly pure and invigorating.

3. The North-East. This current, by ascending the St. Lawrence, *may* reach Cincinnati without passing over the Alleghanies; but it generally traverses those mountains, and deposits on them, as already stated, a part of its humidity, as appears from its seldom producing much rain or snow along the Ohio. Except, however, when it succeeds to the moist south-west, and follows a storm, this wind constantly produces one of those, or at least cloudy weather. In temperature and weight, it holds a medium between south-west and north-west. It some-

times continues to blow for a week after a south-west storm, during which the sky will perhaps be nearly clear. It is invariably moist, and produces in all exposed to it, the sensation termed *rawness;* though in a much less degree than in the Atlantic tates.

4. The South-east. This partakes much of the character of the humid south-west, for it raises the thermometer and sinks the barometer in a moderate degree. It is always damp, and generally produces rain or snow. It frequently succeeds to the north-west, and is then for the most part attended with a clear sky.

5. *The West.* This is generally a cool and rapid wind. From the region it traverses in reaching this place, it must necessarily be dry and enlivening. In the winter, when it continues long enough for the air of the Chippewan Mountains to arrive, it produces intense cold, sinking the thermometer sometimes below cipher.

6. *The North-east and South.* These winds do not prevail respectively more than one week in the year. The first seems to possess most of the qualities of the north-west, and the second of the north-east; the third appears to be a modification of the humid south-west, and is always stormy.

In regard to the weather, on the Ohio, the following table, setting forth the results of 4,268 observations, will afford sufficient information for the general reader. Observations made in other parts of the upper Mississippi states, would probably, give nearly the same proportions of clear and cloudy weather.

Clear days.	*Cloudy days.*	*Variable days.*
1—180	107	68
2—158	112	91
3—187	78	85
4—152	106	107
5—185	111	68
6—172	112	74
Mean terms 172. 33	104. 33	82. 16.

From these results it may be expected that, of the 365 days in the year, about 176 will be fair, 105 cloudy, and 84 variable.

The condition of the weather, in each month of a mean year, for the above period, is exhibited in the following statement.

	Clear days.	Cloudy days.	Variable days.
January,	9. 8	13. 1	7. 8
February,	10. 3	12. 0	6. 5
March,	13. 5	9. 1	8. 3
April,	13. 1	10. 8	7. 6
May,	15. 0	8. 5	7. 5
June,	15. 5	5. 0	9. 6
July,	19. 0	5. 5	6. 0
August,	19. 6	4. 6	6. 5
September,	19. 5	5. 3	6. 1
October,	16. 1	6. 0	8. 1
November,	9. 5	13. 5	5. 5
December,	9. 6	14. 1	5. 8

From this table it appears, that July, August, and September have the greatest, and about an equal number of fair days; that October, June, and May, compose the next class; to which succeed the months of March and April, followed by February, December, January, and November; that in the four latter months there is the greatest proportion of cloudy weather; that next to these rank April, March, and May, succeeded by the remaining months, which are nearly equal. Lastly, that in the number of days which are variable, according to the sense in which that term is here applied, there is among the months no great difference.

The quantity of water in the form of rain and snow, which falls annually in the west, has not been accurately ascertained. It is probably about 36 inches, and nearly the same as in corresponding latitudes, east of the mountains. Taking the mean of a series of years, it is found that in April and May there falls the largest quantity; next to these are November, March, December, July, and October, succeeded by January, August, Febru-

ary, September and June. The same month in different years, affords very different quantities of rain. September has been observed to vary in this respect, from less than an inch to more than five; October from half an inch to eight; and April from two to nine. The spring rains are sometimes excessive, and protracted for eight or ten weeks, during which there are showers, perhaps on an average every third day. During the spring of 1813, there fell upwards of sixteen inches; four times the quantity which fell in the ensuing four months. At other times this state of things is reversed. In the spring of 1814, there fell not more than nine inches; and in the three subsequent months the quantity was equal to fourteen.

Every irregular distribution of the spring and summer rains is of course prejudicial to agriculture. The copious and long continued storms of the former season, now and then check the early growth, or even prevent the planting of many important vegetables. To these rains such dry summers occasionally succeed, that the pastures are consumed, the leaves of the Indian corn become curled, and those of many forest trees, in dry situations, die and fall off before the usual time. But, fortunately, such extraordinary droughts occur too seldom, and are too limited in their extent, to be regarded as any great calamity.

From the valley of the Tennessee river, to the summit level, between the Lakes and the waters which flow into the Ohio, the snows become deeper and deeper. In Tennessee they seldom exceed a few inches—in the centre and north parts of Ohio and Indiana, they sometimes, as was the case in 1830—1, fall to the depth of two feet. North of the Ohio river, the snows are deeper in proportion to the latitude, than they are on the opposite side; which is owing, perhaps, to two causes; first, the greater elevation of the interior of Illinois, Indiana, and Ohio; secondly, the vicinity of the lakes. At Cincinnati, the deepest snow which falls, does not exceed a foot; but one third of that depth is a more common maximum for the winter. This being the case, and periods of mild weather with rain occurring frequently, in almost every winter month, the ground is seldom covered for any great length of time. Severe winters, however, have

occurred a number of times, in which the same snow has continued on the ground for several weeks, during which the Ohio was bridged with ice from its sources to its mouth. This happened as far back as 1796, and was repeated as late as 1831—2, showing that no particular change of climate has yet taken place in the west.

More snow probably falls east of the mountains than west, below the latitude of 40 deg.; above the parallel, the difference is not perceptible. This can be easily explained. In the maritime states every eastern wind, in winter, almost of necessity brings snow, as it transfers the atmosphere of the sea, over the colder surface of the continent. In the west, the great lakes supply, in this respect, the place of the Atlantic Ocean, and augment the depth of the snow for two degrees south of their shores. The fogs of the western rivers are said to be denser, than those of the eastern, but additional facts are necessary to an accurate estimate.

In tornadoes, hailstorms, winter thaws, and floods, summer frosts, premature springs, anticipating autumns, and other anomalies, the climates of the east and west, in the same latitudes, seem not materially to differ.

In the interior states, the pleasantest travelling and emigrating months, are April, May, and June; September after the equinox, the entire month of October, and the first half of November. The vernal travelling season, is more showery than the autumnal, but from the fulness of the rivers, and the lively green of the forests and fields, more cheerful. The autumn is smoky, dusty, and often deficient in water, but serene, equable in temperature, and decorated with leaves of every tint, which present the traveller of taste with an untiring succession of picturesque and beautiful views.

June, 1832.

ART. II.—*Facts and Cases, reported for the Western Journal.—By Wm. Maclay Awl, of Somerset Ohio.*

A country practitioner in the West, most frequently has his location, as it were, upon the confines of the learned world, where both the labors of his profession, and the common concerns of life unite, to unfit, and disincline his mind for any thing like speculative disquisition, or original communication. His necessity obliges him to consult only with *facts*, in relation to the emergencies of his profession, and generally without the intervention of much theory upon the subject.

But as *facts* and *cases*, may be denominated the raw materials of the profession capable only of the finer finish of the market, and you appear to possess an honest claim upon the interior for the commodity on hand, I propose occasionally to gather in a brief style, some of the lessons experience may teach, and in the shape of private clinical reports, transmit them for the pages of your journal.

Paracenthesis Thoracis. My practice affords another instance of the success which may attend this operation, as the following case will testify. Joseph Woods, aged 28 years, of stout make and good constitution, was attacked on the first of May 1830, while engaged at work upon the Ohio canal, with ordinary pleuritis. A neighboring physician bled him once triflingly, put a small blister upon the affected side, and gave various medicines, from all of which he obtained no permanent benefit, but continued to linger up and down in great misery, with an unsubdued and fixed disease, in mighty conflict against his stronger nature. Suddenly he felt something crack and give way within his breast, like the report of "a common pop-gun." He sprang up, and the matter gushed from both nose and mouth in

a full stream; it continued to run freely, until more than two quarts were discharged, when it gradually ceased, leaving him much relieved of the pain and distress, under which he had then suffered for 3 weeks. Thereafter he made out to hobble home, a distance of 25 miles, and there continued sick for a long time, the matter every now and then gushing up into his throat, and passing out in large quantities. Sometimes it would come up so suddenly, particularly if he were in a recumbent posture, as to threaten instant strangulation, and if occasionally he slept, it was most distressing to witness the heavy anguish of his chest, while the pus was frequently thrown into the trachea with such force, that it escaped by either nose, or mouth, as they became the most defending parts.

Sometime after this a physician was consulted, who pronounced him in the middle of a liver disease—and promising a very speedy cure, he commenced, to employ his own appropriate language, "*to run the marcury as close to him as he dare, without injuring of him*,"—taking especial care at the same time, to wash down the doses, with liverworst tea, that plant being then, just in the zenith of its popular fame. Under this administration he was suffered to continue for three or four months, growing worse and more weak every day, and unable for the last ten weeks to lie down at all. His suffocating cough was almost incessant, and its daily increase presenting nothing but the horrid prospect of sudden strangulation, he one day sent for his Doctor, and expressed a wish to be cut open, believing that if that could be done, he would be cured.

Under these circumstances I was sent for, at the distance of 12 miles, to consult about the propriety of such an operation, and for the first time saw the patient. With his thin elbows braced out upon pillows, he sat before a small table, the perfect picture of despair—there had been no chills, or symptoms of fever since the pus began to be discharged. On the contrary his skin was pale and cool; no particular thirst or bad feelings about the stomach, and so far from any thing like a liver affection, his tongue was perfectly natural, the bowels in

good condition, and the whole digestive system in excellent health—his appetite might indeed be called good, though what was eaten, proved of little service to him, for the violent fits of coughing, most commonly ended in vomiting, and then the food was always discharged. But he had not been able to lie down for several weeks, and his legs had become œdematous to the knees. Upon examination, there appeared an evident fulness under the lower ribs of his right side. I measured round each side from the point of the ensiform cartillage to the spine, and a careful comparison made the affected side half an inch the largest. Next I tried percussion with the point of my finger, sounding all round in every direction, until, with indubitable satisfaction, I determined the centre of the tumor to be between the middle of the 6th and 7th ribs of the patient's right side. The integuments were divided in the usual manner, and a flat trocar passed through the pleura. Three quarts of pus were discharged, and then the air whizzed clear. It was truly astonishing to see, how to the last drop the lung would punp it out. By passing in a small probe, after it had ceased running, I determined that the direct depth of this vast abscess exceeded 5 inches—more than half way through the body of the right lung! The poor fellow was instantly and perfectly relieved, and immediately laid down, rejoicing in the satisfaction of once more resting quietly in his bed. It was my intention to have the wound kept constantly open, and I accordingly had a small canula constructed expressly for the purpose, but under every contrivance it caused so much irritation and cough, that it could not be continued, and very much to my disappointment, I had at the expiration of ten days, to go and perform the operation over again, when nearly a similar quantity of pus was again discharged. To prevent the like occurrence in future, I instructed his mother to introduce the blunt end of a female cathetre twice a day, and evacuate each time, any matter that might exist. This arrangement answered much better, and he very soon began to improve. The swelling quit the extremities without any particular remedy, in a few days after, he became able to lie down, and the cough and irritation gradually abated.

The discharge from the wound was less and less, until in six or eight months it entirely dried up, and the wound closed over, and finally, without the help of any other medicine than one or two Dover powders, he continued rapidly to improve until his health became perfectly and fully established; and he remains at this time strong and firm.

Chloride of Lime in Ozena.—I take great pleasure in being able by the following case, to corroborate the success of this valuable remedy in chronic purulent discharge from the nose, recommended in the XI. No. of "The American Journal of the Medical Sciences," by William E. Horner, M. D., adjunct professor of Anatomy in the University of Pennsylvania. It is a most intolerable and filthy disorder which has hitherto, I believe, resisted the ingenuity of the most respectable in surgical skill, and the prospect of a certain remedy will doubtless claim for its discoverer the thanks and respect of the Profession.

Early last spring I was requested to prescribe for this offensive disorder, by Mr. H——, a most respectable and worthy citizen of Somerset, Ohio. He was by profession a chair maker and sign painter, and 37 years of age. With the exception of painters' cholic, to which he was occasionally subject, his constitution and health might be called good. He could assign no particular cause for the disorder, unless it had been excited by the frequent colds to which he had been subject in the preceding fall, or that the lead had effected his nose also. His character was a sufficient guarrantee against any suspicion of syphilis. The disease had first begun about the commencement of January, 1831, by repeated and severe attacks of acute pain above the eye-brows and lower parts of the forehead, to which was often added, when the sufferings became most severe, more or less pain and inflammation in the eyes themselves. Bleeding, purging, blistering, and various other remedies had been used with little or no benefit, and the attacks continued to increase in frequency and severity for two months, when the nose suddenly opened, and there followed a copious discharge of the most offensive muco-purulent matter; it was from but the one nostril

at first, though the other subsequently became affected. The running was most troublesome and abundant early in the morning, the nostril by that time having become perfectly full. At night, especially, if he chanced to sleep upon the back, the matter would run down his throat, and by its offensive character produce so much sickness as most generally to destroy all appetite, at least, for breakfast. During the day, the ready opportunity of blowing, rendered the discharge much less disagreeable, but the constant effort kept his nose always uneasy, and more or less painfully inflamed, and if any sudden cold, to which he appeared remarkably subject, caused the running to stop, the original pain and distress returned immediately to the forehead, nor would it again be relieved, until a more copious discharge ensued.

At my request he commenced the use of the chloride of lime on the first of March, 1831, by putting a tea-spoonful into a cup of water, and injecting the clear liquor three times a day, high up into the nostril. Its effects were at first very severe, made him sneeze terribly, and he did not continue it long before it produced both so much pain and hæmorrhage, as obliged him for a week to suspend it altogether. At the end of that time he began again, the effect was not so severe as before, and he determined to persevere. It always produced a more copious discharge, and did much service in correcting the fetor of the matter, but he had continued it three times every day for at least four weeks before he was satisfied that it was producing any permanent change. Nearly about the same time, the other nostril also commenced running, after which he improved so fast, that by the end of June the cure was complete. It has not since returned in the slightest degree.

Premature Labor.—May the 1st, 1830, Mrs. D. was taken suddenly with pains, resembling labor; she was in the seventh month of her pregnancy. The pains had immediately supervened upon the accidental rupture of the membranes and the discharge of the liquor amnii. It was the first conception, and on that account and her small size, any satisfactory exam-

ination was very difficult. I was satisfied, however, that the membranes had actually given way, and that the discharge came really from within the uterus, for it was quite copious, and would gush forth most especially in company with the regular pains, but the uterus had evidently been taken entirely by surprise, as there was not the least apparent disposition on the part of nature to prepare for an actual labor. Venesection was performed; the bowels emptied with a spoonful of castor oil; and instructions given to remain as quiet as possible. As much opium was given from time to time as the urgency of the pains demanded. I expected that labor would ultimately be produced, and was curious to watch the time, at which under the circumstances it would commence, all things remaining undisturbed. It was thirteen days before it actually ensued, and then it was conducted in the most lingering, and on the part of nature, apparently most unwilling manner. It proved to be a footling case, and one leg having escaped through the rent in the membrane, could be felt moving strongly within the vagina. Eventually, the delivery was accomplished with safety to both mother and infant, the latter being snug in the membranes, which were unbroken, except the little hole in the bottom, from which the leg protruded. Dr. Dewees ask, why it happens, that in the majority of premature labors, the cases are footlings? In the instance just detailed, the fact is explained by the manner in which the membranes were ruptured by the leg of the child.

ART. III.—*Inquiries into the Origin, and the Mode of Expulsion of the Ascaris Lombricoides.* By GEORGE R. MORTON, M. D. Coshocton, Ohio.

When the important influence which helminthic diseases exercise upon the health of children is universally considered, it cannot but be acknowledged, that, with all our experience and skill, we are still lamentably ignorant both of their true nature, and of the most unfailing means of effecting their removal. The labored speculations which crowd our medical libraries furnish

abundant evidence that our ignorance upon this subject is not owing to the want of attentive observation; but rather to the mysteries in which the subject is shrouded, and to our deficiency of information as to the peculiar habitudes of the ascaris itself. It is hence that such conflicting sentiments have arisen—such wild and untenable theories—and such inert and negative modes of practice. While one nosologist, as an advocate for the doctrine of "omnia ex ovo," is eagerly engaged in proving the developement of the worm in the human system from *ovula concealed in the ingesta*—another is equally sanguine to establish his favorite theory of its *spontaneous generation*. One distinguished writer arrives at the conclusion, that, "worms form part of a healthy constitution, and are scarcely injurious, but from accidental circumstances"—while another attributes to their irritation, a formidable list of the most distressing disorders. With views so utterly at variance, the difference in practice can readily be imagined;—the most temporizing, if not inert—the most active, if not absolutely poisonous.

It is not my intention in this article to assert a claim to any new or original ideas in regard to the origin of this isolated animal; but from the views I shall advance, a methodus medendi has been adopted, the correctness or fallacy of which is fearlessly left to the unerring test of experience.

Before giving our views of the treatment proper for the removal of these animals, I wish to offer a few remarks upon the condition of the alimentary canal most favorable to the production and existence of worms.

It is a well-authenticated fact, that the majority of cases of verminous diseases, affect children under the age of six or seven years; and mostly those of a cachetic and debilitated habit of body. In such children the digestive faculties are always much impaired, and, of course, the lining membrane of the whole canal, is in a more or less excited and irritated condition. In this state of irritability, substances taken into the stomach as food, are necessarily but imperfectly digested, and the unassimilated matter, if it does not absolutely heighten, serves at least to continue the original disorder. The tone of the alimentary

canal is thus gradually more and more reduced below the healthy standard, until it reaches that condition in which the food, instead of passing through a pure and uninterrupted process of nutritive digestion, undergoes some species of decomposition, if not fermentation. It is when this stage of *infantile dyspepsia* (as it might be called,) has been arrived at, as evinced by flatulence, and by unhealthy and mal-digested foeces, that we are most likely to find the first appearance of the ascaris lumbricoides.

It will be remembered also, that this is a period of life at which the bowels are usually loaded with excess of mucus; and which of itself, in the habit I have described as peculiarly susceptible to helminthic disease, will run into the same decomposition or fermentation, or at least, serve as a nidus for the generation, growth, and sustenance of these parasitical vermin.

However much the assertion, that verminous diseases are occasionally epidemic, may be ridiculed or denied, there are so many concurrent testimonies in its favor, that the fact cannot longer be controverted. My own limited experience has fully confirmed me in the belief, that these affections are sometimes in a small degree, epidemic, or at least *endemic* to a considerable section of country.

The sympathetic influence mutually exercised between the alimentary canal and the skin, is sufficiently obvious, and well understood. When, therefore, after sudden atmospherical variations, particularly from a hot and dry state of the weather, to one chilly and laden with moisture, as is so common in our vernal months—many children are simultaneously afflicted with symptoms indicative of lumbricoides, can we attribute it rationally to any other cause than the one so apparent? Rejecting as unsatisfactory, all theories, how can we so plausibly account for the appearance of worms after sudden changes of air, as by that which refers the explanation, to a sympathetically depraved condition of the stomach and smaller intestines, and to a vitiated and perverted digestion.

We are perfectly conversant with the fact, that a spare and penurious diet, particularly of unripe vegetables and fruit, is

one of the most frequent exciting causes of the production of lumbricoides in young children, and especially in those of the poor. It is perfectly immaterial whether such diet has undergone a culinary process or not, symptoms of worms are generally very certain to follow its continued employment. Independent of the injurious effect such unassimilating food must finally produce directly on the stomach and bowels, it is plain that it cannot long remain in the primæ viæ without undergoing fermentation, and consequently giving birth to these troublesome vermin.

That a diet perfectly devoid of stimulating and tonic ingredients, will give rise to worms in the human body, is susceptible of proof. I need mention but two instances in support of this position—both long embodied in our medical Text Books. Criminals, by an old law of Holland, "were frequently punished by being kept upon bread without salt." "The effect was most horrible; these wretched creatures having been devoured by worms engendered in their own stomachs." Again, it is familiar to every one acquainted with the peculiarities of the sheep, that the want of an adequate supply of salt, whether in substance or chemically combined in the vegetables of salt marshes, is sure to render the animal a prey to the fasciola or fluke—in common language, to the "rot."

The view which has just been taken of this interesting topic appears to me not only philosophical in theory; but I am convinced, perfectly rational and just in practice. I am aware that it is from the very nature of the subject, crude: yet I cannot refrain from expressing a hope that my suggestions may be carefully tested and examined.

Before passing on to the consideration of the plan of treatment I have deduced from these views, I would remark in brief, that the symptoms laid down in books, and particularly by Dr. Heberden, as characteristic and pathognomonic, when considered in detail, are at best but very fallacious. They are generally as indicative of *any other disease of the bowels* as they are of worms. I have seen most of the leading symptoms combined—the offensive breath—tumid abdomen—picking at the nose—

convulsions—voracity or loss of appetite—dry hacking cough; and yet a long continued course of anthelmintic remedies, afforded not the least trace of lumbricoides or any other worm; nothing in fine was apparent but a highly irritable condition of the mucous coat of the intestine, which such a course of medicines could not fail to increase. My own experience and observation have furnished me with *three diagnostic signs* which, when present with those enumerated, I can safely pronounce *unerring:* they are, *a pearly whiteness of the sclerotic coat of the eye—a brilliant shining carmine tinge of the lips, particularly of the upper*—and *a peculiar and almost indescribable depression of the alæ nasi.* This last appearance I can compare to nothing except that assumed by the same organ in the facies hippocratica.

Having thus expressed my opinions as to the probable origin and nature of the ascaris lumbricoides, it only remains to point out the principal indications of cure—and the manner by which those indications are most effectually subserved. It is acknowledged by Dr. Good, that "there is yet great space for improvement in the mode of treating the complaint;" and that "a decisive vermifuge process is yet a desideratum in medical practice." This uncertainty and defect in practice is evident from the empirical mode most physicians resort to for the removal of these disagreeable vermin, and may fairly be imputed to the unsettled ideas they have of the pathology of the disease. Previous to my adoption of the opinions I have explained in this article, I had found no disease to which children were peculiarly liable, more troublesome and vexatious in its remedial management than this. After a continued and perhaps successful use of some article of the numerous list of anthelmintics, I was but too frequently mortified by the gradually declining state of my little patients' health—and the recurrence of verminous symptoms in their original violence. Subsequent observation has satisfied me that this arose from the employment of *simple* and *uncombined* substances, whose only effect was to expel the worms, either by their mechanical or by their narcotic action; and of course, operating upon the debilitated and relaxed surface of

the intestinal tube, to increase instead of removing that very condition which I consider to be the foundation of the disease.

The indications at which I now aim are, first to expel the worms, and then to remove that condition of the bowels which predisposes to and is, in fact, the proximate cause of inverminaation. It will be of little use to effect the expulsion of lumbricoides, if the tone of the alimentary canal is not specially altered. We but too frequently aim at removing the *apparent cause* of offence to the system, and congratulate ourselves prematurely on our success, without considering that the *lumbricoides* themselves are but the *effect* of a cause still more remote. We thus, in our anxiety to attain the first, and seemingly most important indication, neglect or disregard altogether the more imperious calls of the second. Before forming any definite opinion on the subject, by which to be guided, my early practice, I am free to confess, was not a little empirical. If one anthelmintic failed, I had but recourse to another till my object was obtained in the discharge of the vermin. My favorite remedies were, Ol. Chenopod. Anthel. dissolved in Spts. Ter.; a decoction of Spigelia Marilandica; or a dose of Calomel at night, followed in the morning by a purge after the following recipe:—

Rx. Fol. Senna, oz.ss
Spigelia, oz.ss
Manna, dr. ij.

to a pint of boiling water, of which, when cold, the patient partook freely until catharsis was effected. Yet even in these, though generally successful in expelling the worms, there was something unsatisfactory, as the cure was only temporary. Attentive consideration of the subject led me to test the utility of prescriptions, which would *combine the two leading objects at one and the same time*—the removal of the worms, and the restoration of the tone of the bowels. That I have finally fully succeeded in the discovery of such a combination, upwards of one hundred cases in which it has been employed without a single failure, have satisfactorily convinced me. Since the know-

ledge of this, I have used no other vermifuge whatever. The combination is formed after the following:—

Ol. Oliv, purif. oz.i.
" Chenopod. Anthel. m. 40,
" Anisi, oz.i,
' Templinum, oz.i,
Tinct. Myrrh Satur. oz.ss. m.

The three last named oils are to be added, when thoroughly mixed, to the Tincture, and perfectly combined, before being mixed with the Ol. Oliv. It is necessary that the Ol. Chenopo. Anth. be perfectly unadulterated. Otherwise the combination will be almost inert. The dose of this for a child of four years, is one drachm every hour until purgation is induced, and repeated daily for three days. In this prescription, we have in the ol. oliv, a mild, yet effectual purgative; in the ol. Chenop. Anth., an exceedingly bitter article, not only decidedly noxious to the worm, but considerably tonic; in the ol. Anisi, a placebo to the taste—a corrector of the acrimony of the Chenopod., and a carminative to allay spasmodic action; and the Ol. Templinum, (the distilled oil from the green cones of the pinus sylvestris,) a moderate vermifuge. One important advantage this combination possesses, independent of the facility with which it may be administered to the youngest infant, is, that a resort to any preparatory process, whether medicinal or dietetic, is altogether unnecessary. Even where the bowels are in an irritable condition, without the presence of worms, I have found it eminently useful.

In the early part of the article, I adverted to the opinion entertained by Dr. Parr, that worms are harmless tenants of the alimentary canal: as also to that expressed by various writers, that they excite a formidable list of diseases. To the former no serious reply is needed, for its weakness is self-evident; but to the latter, I can conscientiously subscribe. My own experience has satisfied me, that chorea, epilepsy, amaurosis, perverted vision, long protracted syncope, and imbecility of mind are among its frequent effects. But very lately, a case of convulsions, the severest I ever witnessed in a child, arose from

this cause, and yielded, after the expulsion of a mass of lumbricoides by the vermifuge I mentioned above. A peculiar species of fever, with distinct exacerbations, and remissions and much gastric distress, I have frequently noticed—and have as frequently removed by the same remedy, when its appearance, in connexion with the diagnostic signs I have laid down, rendered me aware of its true helminthic character.

ART. IV.—*An Essay on* ERYSIPELAS, *read before the Cincinnati Medical Society*, 1832. By EDWIN A. AT LEE, M. D.

We were entertained and edified on the last evening of our meeting, with an Essay on the characteristic differences between animate and inanimate nature. In that essay, it seemed very satisfactorily proved, that even in creatures organized and vivified, the laws of chemical affinity were not altogether suspended; while at the same time the learned author admitted that the principle of vitality held over those laws an undisputed sway.

Some observations also made on vitality itself, were not without interest, notwithstanding their seeming obscurity, caused principally by the reluctance which almost all scientific men entertain, against having recourse, except indirectly, to a FIRST CAUSE, the inspirer and modifier of life, the essence and potency of which He alone is, and must be: for it is reasonable to believe, that all creation exists and is sustained by what has very properly been denominated an *Influx* from the Creator, which, although one and the same, presents appearances diversified according to the differently constituted forms which are in existence. This influent Principle is demonstrated to any one who attends to the various instruments of sound, called wind instruments, which all receive the *ærial influx* at *one* orifice, but emit sounds indefinitely varying according to their specific forms, and the varied manipulations of the musician.

But I forbear, lest I be deemed *visionary;* and must descend from

my metaphysical eminence, and enter on the less speculative, but not less appropriate subject, selected for this evening, which is a plain, practical essay on ERYSIPELAS.

The disease to which this name has been given, is one of peculiar character, which nosologists have agreed to place among the Exanthemata, or febrile diseases which effloresce upon the surface of the body. It may very properly be distinguished from all others by its *aptitude to extend over the skin*, or to bring into consent the parts in the neighborhood of that in which it originates. Hence the name *Erysipelas*, derived from the Greek, *eruo* to *draw* or attract, and *pelas* adjoining. It is known also by the names, *Rose*, *St. Anthony's Fire*, *Ignis Sacer*.

In Cullen's nosology it is a genus of disease in the class, *Pyrexiæ*, characterized by frequency of pulse after cold shivering, with increase of heat, and especially, among other impaired functions, with diminution of strength.

Of this disease Cullen gives two species, *Erysipelas Vesiculosum*, with *large blisters;* second, *Erysipelas Phlyctenodes*, with small blisters, called also *shingles*, from cingula, a girth, because it girds or surrounds the body. These definitions are for the most part correct, but that Erysipelas does sometimes manifest itself without the blisters, I entertain no doubt.

Dr. Good mentions two varieties of this disease, namely the *local* and *erratic;* but, with deference to so great a name, I am disposed to think his division incorrect, since the very title of the affection precludes the idea of fixed locality, by plainly indicating its wandering character.

Erysipelas is an inflammatory disorder, either of the skin externally or the mucous membrane internally. On the skin it may make its appearance in several places simultaneously, and is known by a deep red color, painful and burning heat, and swelling. The parts of the body most liable to attack are the extremities and face, and when the latter is the seat of disease, it is often preceded, for two or three days, by a tenderness and soreness of the bones underneath the part about to effloresce, as if they had suffered severe contusion.

It is supposed by some writers that women are more subject

to Erysipelas than men are; and those of irritable habit, and robust and plethoric constitution more liable than others. My experience enables me to agree with authors of this sentiment. I have supposed also, that persons of gouty diathesis are more exposed to its attacks than those of other peculiarities of constitution; especially do such seem to be obnoxious, in whom, although inheriting the diathesis, arthritis, strictly speaking, has never manifested itself; such also, whose system has been reduced by frequent paroxysms of gout, so as to be no longer susceptible of them.

When speaking of the parts most subject to Erysipelas, the extremities and face were specified; but every part of the body is liable to it, and very young children, as well as adults, are often its victims.

The *causes* are such as are capable of exciting inflammation, namely external injuries, the application of stimulants, obstructed perspiration, exposure to cold, and certain derangements of function in the alimentary canal, some of which are induced by intemperance in eating and drinking. It is known also to follow suppressed evacuations of every kind; and is thought by some writers of celebrity to be sometimes epidemical: I am not disposed to doubt that particular states of the atmosphere may render it so.

It were happy for our profession if the *diagnosis* of Erysipelas were as free from obscurity as its etiology. There seems to have been too great a fondness, sometimes unwarranted by experience, for fabricating distinctions without differences, in the characteristic signs of the disease in question. Even practitioners of merited eminence, are viewed by my comparatively superficial intellect, as having greatly exceeded the limits of correct pathological classification. Thus Mr. Lawrence divides the varieties of Erysipelas into three, the *simple*, the *œdematous*, and the *phlegmonous*. Why the last should have been included is difficult to conjecture, since that species of inflammation is marked by a throbbing tumor, pointing to some definite outlet for its *purulent* contents; whereas Erysipelas, so long as it is confined to its proper sphere of action, the skin, never shews any

disposition to suppurate; never manifests, like phlegmon, the hard, circumscribed tumor caused by effusion of coagulable lymph immediately beneath the skin. And even when Erysipelas penetrates the cellular texture, and thus throws out a kind of pus, it never becomes circumscribed, but runs into sinuosities between the muscles, like a quagmire, an instance of which occurred in my practice, wherein the left arm was thus affected, nearly from the shoulder to the elbow, and the matter was evacuated by a seaton and bandage. And in the disease under consideration, the termination by resolution distinguishes it from phlegmon, for this never desquamates.

It would, in my judgment be best always to designate the subject of this essay by the two peculiarities, of active and extensive *spreading*, and *scaly resolution*, than by accidental or adventitious marks induced by certain states of the patient or of the atmosphere. We are assisted in our diagnosis by the following facts, namely; phlegmonous inflammation uniformly commences in a part comparatively deep-seated, and points and escapes at the surface; while Erysipelas commences at the surface and rarely penetrates beyond it. Phlegmonous Inflammation never vesicates, but Erysipelas mostly does. The color of Phlegmon is bright or blushing red; that of Erysipelas dark red or yellowish, and its termination, when severe, is in gangrene; but phlegmon is, I believe, not known to terminate thus, except when it attacks the viscera. Independently of these distinguishing characteristics, there are others referred to by authors, and which may or may not be confirmed by experience; such as the *contagiousness* of Erysipelas, if Dr. *Wells's* facts *be* facts, and its capability of being communicated by *innoculation*, if Dr. Willan be correct.

In relation therefore to this disease, it is probably *sui generis*, and there does not appear to be any necessity for confounding it with any other. I proceed to an enumeration of its Symptoms. When not of the mildest form, it is commonly preceded by chilliness, lassitude, and pain, alternating with heat. These symptoms continue for a day or two, when a burning and itching is felt in the place invaded. If this be the face the in-

flammation shows itself on one side, commencing behind and below the ear, which it brings into consent, and spreading speedily over the cheek, nose, eyelids, forehead, scalp, and even down the back of the neck to between the scapulæ. Sometimes it commences at the root of the nose, and expatiates thence until the neighboring parts are involved as above described. Any raspatory irritation at this time hastens its career.

Whatever be the intensity of the redness, which is various in degree, the pressure of the finger causes the redness to disappear, and so soon as the finger is removed, that returns. If the progress of the disease be not now arrested, there soon appear vesicles filled with a fluid at first limpid then yellowish, which break, and the fluid escaping dries and falls off in scales. This last is the termination of the mild form of the disease, attended with little fever or other general affection. But in severe cases when inflammatory symptoms run high, there is great pain in the head and back, much thirst, heat and restlessness, with swelling of the affected part. The pulse becomes small and frequent, sometimes hard and tense, and about the fourth day the vesicles arise, the fluid of which, instead of being emptied out as usual, becomes viscid, and adheres firmly to the skin. Sometimes, but not frequently, the blisters degenerate into obstinate and even dangerous ulcers; and in some cases the eruption, which in general soon disappears, will continue for fourteen days or longer. In these the inflammation and swelling are excessive, and accompanied with considerable fever and delirium.

It is remarked by Dr. Dewees, that when but one side of the face is affected, "a line of demarcation is drawn from the forehead to the chin." Although I do not recollect having seen this fact mentioned by any other writer, I am inclined to give it my assent, having good reason for relying on the talent for observation, the experience, and *integrity* of that estimable practitioner, whose observations are generally of a character not lightly to be disputed or impeached. So far as the characteristic sign just mentioned relates to the *face*, my experience as a *patient* induces me to admit its correctness; but although I have twice

suffered under severe attacks of Erysipelas of the face and head, I am not prepared to say that this line of separation does always extend along the *scalp*, for mine was wholly affected, yet in greatest degree on the side corresponding with the diseased face.

For the most part, after having run its course, it does not return till after some months or a year; but sometimes, after appearing to have subsided favorably, it relapses with suddenness and violence, or a metastasis to the meninges and substance of the brain takes place, which soon terminates in comatous or delirious death.

As to that variety which attacks infants a few days or weeks old, and is almost sure to prove fatal on account of its rapid spread from the point of its visible origin, over the whole body, the experienced Dr. Underwood is of opinion that its fatality is owing to particular circumstances, such as ill-ventilated chambers or crowded hospitals. I have, however met with several cases of infantile Erysipelas, where the circumstances mentioned did not in the slightest degree exist.

Dr. Good is of opinion that "what is usually called the infantile Erysipelas, is more commonly a variety of gangrenous erythema, produced in many instances by want of cleanliness, of pure air, and of nutritious food." However this may be, on a general scale, it has so happened that four cases which I have witnessed, were encountered in families who possessed and strictly observed all the conveniences and attentions desirable, in relation to food, ventilation, and cleanliness; so that unless these cases were accidental exceptions, the Doctor's opinion is gratuitous. From post-mortem examination of two infants who died of the disease, there seemed to have existed an affection closely resembling peritonitis, the whole surface of the abdominal parietes, and of the intestinal convolutions, having been covered with a serous fluid highly tinged with bile. If my recollection do not deceive me, my friend Dr. Eberle was present at one of the examinations, and gave his opinion that Erysipelas of infants a few days or weeks old is always sympathetic with intestinal disease. It seems probable, that in this variety the secretion of bile is naturally affected, since, in the cases submitted to my

inspection, the specific eruption was of a much yellower tinge than in ordinary adult cases.

Having briefly stated symptoms, I pass on to the *prognosis* by which I mean a judgment of its *event*, for of its causes I have already spoken.

Erysipelatous inflammation, when superficial, and of moderate extent, unaccompanied by fever or much constitutional derangement, generally runs its course in from four to eight days, terminating favorably by desquamation. But when the disorder penetrates the skin and besets the cellular tissue, it is apt to become extensive and serious. On the extremities, more frequently than on the face or body, does this state of things occur, and the more serious and troublesome in proportion to its extent or spread, or as the rete mucosum is more or less affected.

When the face is attacked, the febrile symptoms which preceded the eruption seldom remit, but seem rather to increase with the increase of inflammation, and do not cease for a week or more, during which time the patient is in imminent danger from the violent delirium or coma so very prone to supervene, and plainly indicating the extension of diseased action to the surface or even parenchyma of the brain, while the skin continues very red and painful. If this state of things continue beyond the 8th day without terminating in resolution, we may expect suppuration to follow, which is known by a throbbing or pulsating sensation, superceding the burning pain now diminished. There is also at this time a diminution of the redness, as well as the chills; a suppuration, if it may be so called, takes place, and portions of cellular membrane are thrown off with the discharged pus. If, however the matter do not discharge in this way, as by ulceration, it is apt to remain a long time in the cavities, and to occasion great pain in the fasciæ, and even death from excessive irritation.

Œdematous swellings accompanying this form, enhance the danger of the patient. Acute diseases of the thorax or any of the abdominal viscera, very much dispose to a fatal termination. No external symptoms are more alarming than the de-

generacy of the inflammation into gangrene, because this plainly indicates a prostration of the system, from which it can rarely be recovered. In general terms we may add, relative to prognosis, that if a cachectic patient be attacked, his chance of a favorable issue is but slender; if a part highly sensible be invaded, and if much fever, inflammation, or delirium attend, especially early in the disease, the patient is in great danger. A metastasis to the brain, lungs, abdominal viscera, or parietes, is very unfavorable. A translation of this kind I have no doubt of having arrested in myself; it was indicated by pain of the surface of the brain, and *incipient* delirium. In this condition I took at a dose two grains of opium, which in 30 minutes quieted the cerebral agitation, and induced a sound tranquil sleep, from which I awoke refreshed and convalescent.

There is sometimes great sensorial and nervous irritability, latent as it were, in erysipelatous disease of the face and head: of this a remarkable example presented in my own case. It was on the 7th day from the onset; I had retired to bed under the full persuasion that I was convalescing, and had enjoyed a quiet sleep of about three hours, when I was roused by a violent thunder, about 1 in the morning and after some time felt a chill, and irresistible stretching, followed soon after by violent arterial action, the pulse at about 130, the carotids beating with such force as apparently to cause my head to bounce from the pillow. An acute pain affected my left frontal sinus and temple, and diffused itself obscurely over the hemisphere of the same side. Four hours elapsed, when my pulse, reduced in frequency to about 90, was full and tense: my tongue thickly coated with a white fur; the pain of the left side of the head continued, the left eyeball was tender throughout its texture, and inclined to the copious emission of tears from the effort in writing a memorandum of my feelings. But ere the day closed, all disagreeable symptoms vanished in consequence of aperient medicines, and restoration to health rapidly followed.

I am aware that in reference to the Prognosis, I might be much more diffuse, but not in my opinion more edifying. It is

not mine to display that happpy result of persevering study, and those wondrously retentive powers of memory, for which some of my brethren are so eminently conspicuous. To these, either from natural incapacity, or (what my self estimation would judge more probable,) from a concurrence of uncontrolable causes of an adverse nature, I am privileged to make very slender pretensions. My decided opinion, notwithstanding, is that Essays for discussion in a Medical Society, as well as observations made thereon, should be divested of prolixity, in order to leave room for discussion by the members generally, and consequently for a richer contribution of *experience* and *rational theory*, than can reasonably be expected, were the remarks of two or three individuals, exclusively, to occupy the time and attention.

It remains for me to treat of the *Methodus Medendi*, or Method of cure, which, in still more technical language, bears the title of *Therapeia*.

The general plan of cure is indisputably antiphlogistic, admitting of modification according to the type of the disease. — In plethoric or robust constitutions, when inflammatory symptoms are manifested in a high degree, when fever of the synochal character prevails; experience warrants general venesection, cathartics, principally saline, antimonial diaphoretics, &c. But when of mild character, or when the febrile condition is measurably overcome, local applications of sedative and discutient virtue should be recurred to and sedulously used. Of these, I have found a mixture of 3 parts of water of Acetate of Lead, one part of Camphorated Spirit, and half a part of Laudanum, to be most efficacious.

Should the inflammation resist this remedy after a fair trial, I apply an Epispastic over the whole affected part. This remedy, which, if I mistake not, was first suggested and used by our illustrious PHYSICK, is one which when seasonably applied, seldom fails to arrest the progress of the disease, and to subdue its violence. A new action is thereby substituted, which commonly obliterates that of the disease, and the artificially vesicated part is then to be dressed either with Basilicon or Mercurial

Ointment. Even when the disease violently attacks the face, there need be no hesitation in applying the Cantharides Plaster, on the score of disfiguring the part, or causing unseemly scars. Thrice have I suffered with Erysipelas of the face and head—thrice smarted under vesicatories; and yet, as you perceive, Mr. Chairman, the delicate cuticle is restored in wonted smoothness, and my *beauty* continues unimpaired!

In some instances, where, before I saw the patients, Erysipelas had wandered round the body in a girdle of vesicles, I have followed it, *pari passu*, with the blistering plaster, and with the desired success. I rely therefore principally on this remedy, although prepared to admit the efficacy of Mercurial Ointment alone, in some cases, having used it over very extensive wanderings of the efflorescence, with most satisfactory result, and entertained no apprehensions about exciting ptyalism in my patients. Indeed, I have never known it to follow the extensive use of the blue ointment in the cure of Erysipelas.

From the experiments of Lawrence, Hutchinson, Dobson and others, the practice of incision and puncturing over the affected surface, claims respectful attention. It is new, but doubtless promises to become powerfully auxiliary in the treatment of this complaint, which is always troublesome, often treacherous, and sometimes suddenly fatal.

When the efflorescence appears in a mild form, unaccompanied by much fever, a cooling saline purge with a moderately antiphlogistic regimen, and the free use of the lotion above recommended, rarely fail, even without venesection or blistering, to overcome it. Much relief is also experienced by dressing the affected part with the farina of rye or buckwheat.

Of leeching, as a topical remedy, I can say little from experience, but since European practitioners of respectability have advantageously tested this remedy, there is reason to believe it safe and efficacious after general depletion.

When the muscular fasciæ have been penetrated by Erysipelatous inflammation, and suppuration has supervened, an outlet for the pus should be artificially made either by incision with the lancet, or by the introduction of a seton: Not only much

suffering, but also destruction of parts, is obviated by this method. In one case under my care, I used the seton and bandage the former acting as a drain to the pus, while the latter approximated the parietes of the sinuous ulcers and promoted their adhesion.

If gangrene be the unhappy result of this inflammation, the fermenting poultice is probably the best application, and internally the bark, wine, and other stimulants are to be promptly administered.

Would it not be advisable, in cases where this troublesome and dangerous affection has made frequent and periodical inroads, to open an issue in some part of the body? It is presumable that this would operate as an efficient preventive of a return.

In conclusion it is proper to remark, that when Erysipelas attacks persons constitutionally debilitated, or if it be accompanied with typhoid symptoms; the tonic treatment is imperiously called for, aided by stimulants: of these, the bark in every form, and the volatile alkali, are to be preferred.

ART. IV.—*Notices of the Influenza and Measles, as they appeared at Cincinnati, in* 1831—2. By DANIEL DRAKE, M. D.

Few epidemic diseases, are of more frequent occurrence, or exhibit more uniformity in their symptoms, than Influenza and Measles. To write the history of every invasion, would be tiresome and monotonous; but as these maladies are said by Webster, in his learned work on Epidemics, generally, to have preceded diseases of a pestilential character, and as Europe is now ravaged by Cholera, it may not be useless to record a notice of their late invasions.

The INFLUENZA of 1831—2, commenced, with severity, not

far from the middle of November, and the first paroxysm lasted for two months. The snows were of considerable depth, and the cold so intense and steady, as to bridge the Ohio with ice from its source to its mouth. At this place, horses and wagons crossed it for weeks.

The autumn of 1831 was not remarkable, either for the number, violence, or peculiarity of its cases of remittent and intermittent fever; and when, at the usual period, these ceased to occur, our city was free from any prevalent disease. It was in this state of the public health, that the Influenza suddenly appeared in the latter part of November, and afterwards prevailed for the ordinary time.

In its symptoms this epidemic presented nothing remarkable. In the majority of cases it was a simple coryza, or inflammatory irritation of the mucous membrane, of the nasal membrane and the sinuses opening upon it. But others presented all the signs of a bronchitis, more or less intense. When the disease proved fatal, it was with these symptoms. Adults were more liable to the malady, than children; and, in general, suffered more severely. In a few cases, it was attended with extreme prostratiod of strength [not to be accounted for by the pulmonary engorgement] apparently indicating the impress of an ærial poison on the nervous system. I saw this trait of pathological character, still more strikingly displayed, in the Influenza of 1825—6, when many patients, for a short time, had symptoms, not unlike those attendant on malignant congestive fever.

The appropriate treatment of the late Influenza, was the antiphlogistic. Blood letting was required in all the violent cases, especially when the greatest mucous irritation was in the bronchial tubes and cells, instead of the anterior ærial passages. I have reason to believe, that the inadequate employment of the lancet, was in some cases the cause of death—in a still greater number, of bronchial consumption.

But all cases did not require blood letting. In many, a general phlogistic action, was but little developed. The lungs were engorged, rather than inflamed. Such cases yielded readily to emetics—cathartics, with the subsequent use of sudori-

fics; a treatment which was attended with happy effects, in cases decidedly inflammatory, after copious venesection. Under this practice, a great quantity of bile was frequently discharged, with signal relief of all the symptoms. In violent cases, after blood letting, tarter emetic administered in grain doses, in the form of pills, alone or in combination with opium, and repeated every two hours, subdued the remains of inflammatory action, promoted expectoration and mitigated the dyspnoea, to which, I need scarcely add, a favorably convalescence immediately ensued.

I am somewhat surprized, that this mild form of the Rasorian practice, does not find greater favor with the physicians of America, in the treatment of acute bronchitis, pneumonitis, and other violent affections of the lungs. I have had much reason to be pleased with it, in my own practice; and have, in many cases, received from my medical brethren, satisfactory accounts of its tendency, when I have persuaded them to employ it. I look upon it, not exactly as a substitute for blood letting, but for *further* blood letting. In all violent cases, that evacuation should precede its employment. On the other hand, when the system has become irritable from depletion, while the pulmonary engorgement, is still such as to embarrass the respiration of the patient, it is proper to combine opium with the tartante.— Without an attention to these two points, the good effects of this practice can be but partially obtained.

As in endemic and sporadic catarrh, every case of Influenza did not require blood letting and other antiphlogistics, of an active character. Diluents, demulcents and sudorifics, and gentle narcotics, were successful in the milder cases, the number of which was not a few. These were attended with free expectoration, from the beginning; and, in their progress, frequently called forth the use of bark and a generous diet.

No invasion of Influenza, ever fails to awaken pulmonary consumption in the predisposed. The late epidemic has left behind it, less than the usual proportion of such cases, at least within the circle of my practice; but to what this mitigation may be ascribed, I am unable to say.

MEASLES.

After two months of unabated frost, the latter part of January became mild. A thaw ensued with S. W. wind and copious rains. These were especially profuse on the streams which enter the Ohio and Alleghany from the north. Both rivers rose rapidly, and by the 18th of February, attained to an unprecedented height. A large proportion of their interval lands was overflown. Cold weather succeeded to the subsidence of the waters, and the months of March, April, and May, were generally dry, and much reduced in temperature; so that it may be safely affirmed, that during the six months ensuing from the middle of November 1831, there was more cold, at Cincinnati, than in any other six months since its settlement in 1788.

The prevailing disease in the latter part of the period here designated, was the Measles; which began in February, and has not yet (June 20,) entirely disappeared. It was most prevalent and fatal in April. At no previous time, has the malady excited so much alarm in this city. I could not discover, however, that it was more fatal than it has been in some other years.—The number of cases even in proportion to the increased population, was, it is true, greater, perhaps, than in previous attacks. I met with several well marked recurrences of the disease in those who had experienced it before. I, also, saw some adults affected, who had often been exposed to the infection in previous epidemics without contracting the malady. But such phenomena are not uncommon. Notwithstanding its prevalence for three months, as the sole epidemic, all the children of the city were far from being infected. I know several families, in which a part only have been attacked; and others, which escaped entirely; although the disease prevailed in their immediate neighborhood. In several, indeed a majority of cases, the malady could not be traced up to a communication with the sick, Several years since, on the other hand, it prevailed for many weeks in Cincinnati, without appearing in the village of Newport, on the opposite side of the Ohio; a fact that would seem to establish propagation by contagion. To this, however, the following

case stands in direct opposition.—During the late epidemic, a child was taken from Cincinnati to a district of country, which was entirely free from the epidemic. Soon afterwards it sickened with the measles, and a number of children, were in constant intercourse with it, throughout the whole course of the disease; but not one of them was infected. Such a fact is not less embarrassing to the theory of contagion, than the exemption of the surrounding country, while Cincinnati was invaded, is to the theory of insensible, atmospheric meteoration.

In its symptomatology, the disease presented nothing remarkable. I met with two cases, which seemed to be the offspring of the morbillous poison, for they occurred in families afflicted with the malady, and commenced with the usual catarrhal symptoms, and yet differed so widely from the rest, that I shall notice them here. In one, the bowels were obstinately costive, but at length acted freely. Very considerable dyspnœa was present. The child was bled twice (after the period for the appearance of the eruption had passed) till syncope commenced; but the fever and difficulty of breathing returned. Antimonials, calomel, diluents and blistering were liberally employed. On the 8th day, a slight efflorescence appeared about the neck, and on the 9th the patient expired. Had this been a simple catarrhal affection, it must have yielded, to the copious bleedings; their inefficacy and the final appearance of a partial efflorescence, sufficiently indicate the impress of the remote cause of the epidemic.

The other case was attended with much less fever, as indicated either by the heat of the surface or the force of the pulse—both of which, indeed, were defective. Emetics, gentle narcotics, warm and stimulating diluents, the warm bath and blisters, were tried, industriously, but to no purpose. As in the other patient, a limited efflorescence appeared on the upper part of the trunk of the body about the 8th day, and in the following night the disease terminated fatally. The books speak of cases of *rubeola sine catarrho*, these were examples of *rubeola sine efflorescentia*.

In most cases of the epidemic, the disease exhibited an open inflammatory character. The heat of the surface was considerable, and the fever ran high, especially in the first part of the night. The stomach was not more irritable, perhaps less so, than I had seen it in previous invasions of the same malady, nor were the lungs more deeply effected.

The proper treatment was the antiphlogistic, of which fresh and cool air was one of the most important items. I should think it unnecessary to make this statement, had I not seen many children injured by being kept under opposite circumstances; several by the advice or consent of their physicians, and more from the prejudices of the people. I am quite convinced, that during the two first days of the eruptive fever, indeed till near the time for the efflorescence, the cooler the patient is kept the better. When the eruption is about to shew itself, some reserve, in this respect, is necessary, and, occasionally the hot regimen is required, to throw a requisite quantity of blood into the skin. After the efflorescence has become established, a close and heated atmosphere is prejudicial; but great exposure on the other hand is injurious. In the decline of the cutaneous affection, and for several days afterwards, it is necessary to seclude the patient carefully from a cool and damp atmosphere; as chilliness at that time may produce fatal congestions of the viscera, particularly the lungs. Such are the precautions which I have found necessary in regard to heat and cold.

Bloodletting was frequently employed, and often with excellent effect. Every acute, or even violent case of measles, does not, however, call for venesection; nor will morbillous patients bear the lancet, like catarrhal, from changes of weather. Of this I have assured myself by repeated observations; having often seen a strong tendency to syncope under the loss of what, for the age of the patient, was a small quantity of blood. Altho' the stage of excitement be acute, and even violent, it does not therefore follow that bleeding should be employed. The disease has its *stadia* and *must* pass through them. The symptoms may be threatening, but, without reducing the powers of

the system, they may in due time subside. When great dyspnœa, pain in the side, coma, convulsions, obstinate constipation, or excessive irritability of stomach, indicate the existence of a visceral, morbillous inflammation, so intense as to endanger the organ in which it is seated, then, and then only, would the lancet seem to be required.

Antimonials, preparations of squill, calomel, Dover's powder, demulcents, the tepid bath, and, in some cases, blistering were employed with advantage. It has appeared to me, however, on the whole, that too much was attempted by art, and too little left to nature—that is, the patient's instincts, which would lead him to moderate the eruptive fever by cool air, cold drinks, and abstinence—after which every thing would in general be well with him.

On the decline of the efflorescence, many patients were speedily well; but others continued feeble and anxious; experienced slight paroxysms of fever at night, with a dry and harsh skin, slept badly, and had more or less of diarrhœa, with tongues that were dry, brown, and cracked on the surface. Under these circumstances the tepid bath and small doses of magnesia in milk or mucilage, with a liberal use of lemonade, were of great service. I also found the following composition highly beneficial:—

R. Pulv. Gum Arab: two drachms,
Sacch: Albs: two drachms,
Ol. Ricine, four drachms,
Aq: Common Ferv: oz.iiss,

Triturate the three first together, and add the last gradually.

To this mixture, some aromatic oil, or a little laudanum, or paregoric was occasionally added.

An excellent, perhaps a better narcotic, in these cases, was the following:

R. Thick Mucilage of Gum Arabic,
Simple Syrup, each oz.i,
Sulphate of Morphia, gr. i,
Mix.

One case of the kind just mentioned, proved fatal; which,

with the two cases of supposed measles above described, constituted the amount of my loss during the epidemic.

While the measles were prevailing in Cincinnati, without invading the country around, many parts of the latter were visited by a mild scarlet fever; which has not yet shown itself in the city.

June, 1832.

REVIEWS

AND BIBLIOGRAPHICAL NOTICES.

ART. V.—*An account of some of the most Important Diseases peculiar to Women.* By ROBERT GOOCH, M. D. From the Second London edition. Philadelphia: E. L. Carey and A. Hart—Chesnut street, 1832.

This work which is now, for the first time, presented to the Profession in the United States, comes to them with high claims to their notice. The opportunities of the author for observation have been extensive, he having occupied the post, for many years, of physician to the Lying-in Hospitals of Westminster, and of Lecturer on Midwifery at St. Bartholomew's, besides being extensively employed in private practice.

The principal design of this work is to give a full and particular account of certain forms of disease which are generally appropriated to the obstetric practitioner, that have not received the attention they deserve from writers upon that subject. It is a fact of general notoriety, that monographs upon this part of the profession are more rarely met with than upon other branches of Medical Science. If there is any thing in the importance of the subject, or in the embarrassing circumstances under which the young practitioner is frequently called upon to make his decision, we are not aware of it. General systems of medicine are, of necessity, inaccurate and defective, and the physician who is familiar only with compendiums, is very often thrown upon his own resources, under circumstances of difficulty and embarrassment that must subject the life of his patient to very great hazard.

To supply this defect in some degree is the object of the

present work. Before proceeding to a review of it, we shall take the liberty of transcribing the author's advice to the young Practitioner of Midwifery. "Your task," says he, speaking to the young practitioner, "will go on prosperously, the sooner you have ceased to read, and begun to observe and think. Do not, however, attempt to dispense with reading, but dispatch it as speedily as is consistent with accuracy. Keep a note book, read the most esteemed original writers on the most important subjects of your art, and while reading them, briefly note down those points you wish to remember, so as to have no occasion ever to look into the book again. Provided you get the points of the work, the more briefly you do it the better; if you are skilful at this, you will find a page will hold a pamphlet, and that twenty pages will hold a bulky volume. Thus your manuscript volume will become a Bibliotheca of your branch of medicine, and you will never afterwards have occasion to consult the books themselves."

After having pursued this course until he is acquainted with the general principles of the profession, he advises him to watch cases attentively, and take notes of their important particulars—"a short description of the leading circumstances, with an equally short mention of the reflections which they suggest." Knowledge thus acquired, impressed and illustrated, by the study of morbid anatomy, conducted upon similar principles, will render a man, in a few years, competent to advise and act in the most difficult emergencies.

There are some writers, the author well remarks, whom it would be wrong to abandon thus; "master minds, whom we return to again and again, not so much for the knowledge they contain, but to observe how their minds worked; and the older we grow the fonder we become of them; such in England are Harvey in Physiology and Sydenham in Medicine.

It is unnecessary, we presume, to enforce upon our juvenile readers this mode of study. More of us are acquainted with its importance than have sufficient perseverance to carry it into execution. If generally adopted, a higher standard of medical education and of medical acquirements would at once be estab-

lished. Physicians generally would not only be better qualified to practice and to write, but to distinguish the substance from the tinsel in the writings of others, and be prepared to demand from those whose office it is to instruct the profession either by writing or by lectures, superior qualifications than have generally fallen to the lot of those who occupy those important stations in this, or any other country.

The first chapter of this work is devoted to the Peritoneal Fevers of Lying-in Women. The following is Dr. G's description of the essential symptoms of the disease.

"Its essential symptoms are pain and tenderness over the abdomen, with a rapid pulse. It begins a few days after delivery, with pain of the abdomen, shivering succeeded by heat, and a quick pulse. As the disease advances, the milk becomes suppressed, the belly tumid, and the breathing short; when it terminates fatally, it does so commonly about the fifth day, but often in less than half that time, On opening the abdomen, the morbid appearences are not uniform, but the most common and remarkable are copious effusions of lymph and serum on the surface and in the cavity of the peritoneum."

Dr. G. refers to several remarkable peculiarities of this disease; 1. It is much more prevalent at some seasons than others. In populous cities, some cases, few in number, mild in their symptoms, and comparatively manageable, are generally to be met with. At others, it prevails extensively as an epidemic, and with great fatality. 2. Another remarkable circumstance is, that when most prevalent, it is most fatal also. When it has been raging for some time, as the cases become less frequent, they become less fatal also, not so much on account of the increased skill of the physician, as the comparative mildness of the disorder. 3. It is not uncommon for the greater number of cases, when the disease is epidemic, to occur in the practice of one individual. Of this peculiarity Dr. G. relates several instances, and hence, as he remarks, the suspicion has very naturally originated, that the disease might be communicated in the clothes of the practitioner, or the furniture of a tainted room. It may not be irrelevant to remark, in connection with this fact, that the great proportion of cases of erethema anatomicum have

arisen from the examination of persons recently dead of inflammation of the bowels.

In the investigation of this disease, it is not sufficient for the student simply to know that it consists in fever with peritoneal inflammation. Fevers as well as inflammations, may differ, both in degree and in type, and it becomes important to ascertain whether this difference may not be so great as to require a modified, or even an opposite mode of treatment. For the purpose of deciding this, the author proposes to revise the history of the successive epidemics which have appeared for the last half century, and the mode of treatment which is represented to have controlled them most successfully.

A form of puerperal fever is described by Dr. Butler, of Derby, as prevalent between 1765 and 1775, in which bleeding was injurious, and which was cured by purges of Rhubarb, taken every day until the stools became natural. Dr. John Clarke describes a fever prevalent in 1787, which was almost universally fatal. The disease recorded by Dr. Clarke, was accompanied by the symptoms and post mortem appearances by which we recognize puerperal fever at this day; that which Dr. Butler describes, was a chronic disease, often of five or six weeks' duration, and of a remittent character, probably autumnal fever.

Dr. William Hunter found the disease so fatal, that, in his lectures, he uses the following language: "Of those attacked by this disease, treat them in what manner you will, at least three out of four will die. We tried various methods, (bleeding, refrigerants, stimulants, &c), but every thing failed." Richter on the other hand, professor of medicine and surgery at Gottingen, an author of equal repute, remarks, "I have often seen the Child-bed fever, and always treated it successfully—The means of preventing the disease, or if it has already begun, for curing it, are timely evacuations by purgatives."

The detail of symptoms, by these two authors, evidently prove that they refer to the same disease. It is therefore difficult to account for the difference in its fatality unless we sup-

pose that the latter had never seen it epidemic, and that the sporadic cases were singularly mild.

Dr. Lowder, a physician in high repute in London, in the latter part of the last century, describes a very aggravated form of the disease in which the patient died in from forty-eight hours to a week from the time of attack. He considered the inflammation erysipelatous, and the fever typhoid. All the patients, he asserts, who were bled died. When the fever was typhoid, he gave bark—in some instances to the amount of a gallon of the decoction daily.

Dr. Denman bled largely, gave an emetic followed by saline purgatives. Dr. Gordon relied principally on large bleedings used at the very commencement without regard to the strength of the pulse, one active purgative followed by daily saline purgatives, and an opiate at night.

In 1782, M. Doulcet, one of the physicians to the Hotel Dieu, acquired so much reputation by his mode of treating this disease, that the Royal Medical Society of Paris were ordered by the government to make a report upon the subject. This treatment consisted in giving an emetic of ipecacuanha, and promoting its operation upon the bowels by Kermes mineral given in combination with olive oil. The success of this treatment depended very much upon its being used at the moment of attack, but when given under these circumstances, it is represented as being invariably successful. It was tried in England with various results. Some practitioners giving attestations to its efficacy more or less qualified—others asserting that it was injurious. The practice however has fallen into disuse, and there is now a strong prejudice against it, rather, perhaps, from a priori reasoning, than from experience of its injurious effects.

A practice somewhat analogous was pursued by Dr. Boer, of Vienna, physician to the lying-in hospital in that city. His treatment consisted in the administration of a secret preparation of antimony, to which he attributed peculiar efficacy, so administered as to produce powerful perspiration. The secret of the preparation he never revealed.

A very valuable work has been written upon puerperal fever

by Dr. Armstrong, Dr. Armstrong described this disease, as he has done the other forms of febrile disease, which he has noticed in his works, under the heads of inflammatory and congestive—the one accompanied with strongly marked symptoms of inflammation—the other with those symptoms of depression which arise from congestion. Little complaint of pain was made in the last form of the disease, except upon pressure, and occasionally not even then, although dissections in such cases, revealed traces of inflammation both in the brain and abdomen. The practice of Dr. A. is well known to have consisted in early, copious, and, if necessary, repeated bleeding, followed by active purging, and eventually by calomel and opium.

About the same time, Mr. Hey, of Leeds, published an account of the epidemic which he had treated in a similar manner with like results.

After this retrospect of the mode of treatment prescribed, at different times, by different physicians, Dr. G. proposes the following important question; viz. "whether the puerperal fever, accompanied by an affection of the peritoneum and often epidemic, does not assume different types in different seasons, being sometimes acutely inflammatory and requiring early and active depletion, "at others characterized by debility or what has been called *action without power*, in which depletion however early and actively employed, is useless and pernicious."

Dr. G. proposes two methods of solving this question. 1. A comparison of the records of past, with our experience of recent epidemics, in order to see whether the coincidence of their symptoms warrants the conclusion that they are curable by similar modes of treatment. 2. The result of the same remedies upon different epidemics. He thinks that the former of these sources of information affords only conjectural proof, and that Dr. Armstrong and the profession generally have erred in permitting the experience of a single epidemic to lead them to form too positive conclusions respecting the uniformity of the symptoms in puerperal fever, and inferring, in consequence, that a similar practice would be equally applicable to all suc-

ceeding epidemics. As the subject is one of of practical importance, we shall give his reasoning on it.

"In the leading circumstances of the disease there is certainly great uniformity; it almost always commences a few days after delivery, is marked by pain and tenderness of the belly, and a rapid pulse; if not cured, terminates fatally within a week, and, after death, commonly leaves the depositions and effusions of inflammation. Thus far it is very uniform, but no further. To say nothing of its causes, there are at least three things requisite to form the history of a disease:—1st. Its symptoms. 2d. The effects produced by remedies. 3d. The morbid appearances discovered after death. In the history of puerperal fever there is, even in the first and third of these particulars, considerable difference: this is apparent even in the experience of Dr. Armstrong himself, who describes the local inflammatory symptoms as being sometimes very distinct, sometimes very indistinct, and sometimes absent altogether, the patients not only complaining of no pain in the abdomen, but bearing pressure without the slightest shrinking. Compare, too, the symptoms of the disease as described by Dr. Gordon, of Aberdeen, and those described by Dr. Clark, of London. In the appearance discovered after death, there is also this great difference in different epidemics, that sometimes there is the effusion of inflammation, with extensive redness of the peritoneum, at other times the peritoneum is quite pale; in the sequel it will appear that there is a still greater difference in the appearance after death. But if from the symptoms and morbid appearances we pass to the second particular in the history of the disease, namely, the effects of remedies, (which form not only an essential, but the most important part of this history, for the two others are of no value but as they throw light on this,) there is perhaps no disease of which the histories have been so opposite. Ritcher could almost always cure it. Dr. Wm. Hunter and Dr. Clark could scarcely ever cure it. In Dr. Lowder's time, it was observed that every woman who was blooded died. In Dr. Armstrong's time it was observed that every woman who was not blooded died.

Throughout the whole chapter on the pathology of the disease, Dr. Armstrong writes as if he thought that the symptoms during life, and the appearances discovered after death, were infallible guides to the nature and the treatment of the disease. Thus he remarks, that if a practitioner were to see a woman soon after delivery suffering pain in the abdomen, a quick pulse, and the other signs of fever, and after death were to find no other morbid appearance than extensive traces of inflammation in the abdomen, he would at once conclude that the disease was active inflammation, and would in future treat it as such; and, alluding to those writers who have considered the low epidemic fever of child-bed as a different disease from peritoneal inflammation, he says, 'it becomes a matter of great practical consequence whether symptoms and dissections justify such a distinction.' It appears to

me that symptoms and dissections cannot settle the question, and that Dr. Armstrong lays more stress on the argument than it will bear. Supposing many cases of a disease, which bore in general a striking resemblance to one another in the symptoms and the appearance on dissection; this would naturally suggest as a strong probability that they would all be affected in the same way by the same remedies: but suppose that on applying these remedies to all these cases, with the same activity, at the same stage of the disease, and as far as can be made out, under the same circumstances, they produced different effects on different cases, some being relieved and recovering, others being made worse and dying; this would be more conclusive evidence of a difference between the cases, than the symptoms and morbid appearances were of their identity. The effects of remedies on a disease, if accurately observed, form the most important part of its history; they are like chemical tests, frequently detecting important differences in objects which previously appeared exactly similar, some as soon as mercury affects the mouth, begin to mend, and rapidly recover; in others, the ulcers begin to spread; and so imperfect are the appearances as guides, that I have known the first surgeons in the profession giving opposite opinions about the same case, and a nose lost from taking the opinion of the majority. The local pains and constitutional disturbance which occur in feeble and bloodless persons, and which are irritated by bleeding and other evacuants, strikingly resembling the local pains and constitutional disturbance which occur in vigorous and plethoric persons, and which the lancet and other evacuants relieve and ultimately cure; yet how many years is it before the young practitioner learns that there are cases apparently so similar, yet really so different, and how to distinguish them,—and how many practitioners are there who never learn it at all! Symptoms and dissections can never do more than suggest probabilities about the nature of a disease and the effects of a remedy on it. A trial of the remedies themselves is the only conclusive proof. Sydenham was so aware of this that he says, 'Epidemic diseases may seem alike to the unwary, because in some sort they do agree to outward appearance;' adding this confession, 'when a new species of fever arose, I was doubtful how to proceed, and notwithstanding the utmost caution, could scarcely preserve over one or two of the first patients from danger,' so far from infallible were symptoms as guides."

It is scarcely necessary to remark upon this subject, that all experience confirms the wisdom of Sydenham's remark. Notwithstanding the proneness of medical men to form general conclusions from particular epidemics, nothing is more certain than that independent of the modification of disease produced by local circumstances, and by peculiarity of temperament and mode of living, there is an atmospheric influence upon diseases,

rendering them at one time highly inflammatory, and at another, producing a degree of debility that requires the utmost caution in the use of depleting remedies.

For instance, the yellow fever, on its appearance in the different seaports of the United States, in '93, was every where of an inflammatory character, and this condition, with some modifications, prevailed in its successive attacks for many years.

On the contrary, the typhoid epidemic which commenced in 1812, and for many successive years prevailed throughout the union, was *almost* universally of an opposite character. The character of the epidemics we have since had, has varied, sometimes requiring, at other times contraindicating the use of the lancet. The small-pox, the measles, and other inflammatory diseases are modified by this atmospheric influence, and we see no reason why peritoneal inflammation should not obey the general law. But we proceed to give Dr. G. an opportunity of verifying his logic by his own experience. Preparatory to this, we take the liberty of quoting his admirable description of the disease.

"The cases which were so numerous in those unhealthy seasons had the common symptoms and course of puerperal fever. They began a few days after delivery; the leading symptoms were diffused pain and tenderness, with some swelling of the abdomen, a quick pulse, which was generally at first full and vibrating. Sometimes it was small, but still it was hard and incompressible; the skin was hot, though not so hot as in other fevers; the tongue was white and moist, the milk was suppressed. As the disease advanced, the belly became less painful, but more swelled, and the breathing short; towards the end, the pulse was very frequent and tremulous, and the skin covered with a clammy sweat; even in this state the tongue continued moist and the mind clear, and death took place generally about the fifth day. On opening the abdomen, which was often as large as before delivery, the intestines were found distended with air, the peritoneum was red in various parts, its surface was covered with a coat of lymph, the intestines adhered to one another, and the omentum to the intestines; coagulable lymph was deposited on various surfaces, especially in the depressions between the convolutions of the bowels and on the omentum, on both which parts it often lay in large masses; the cavity of the peritoneum contained several pints of a turbid fluid, apparently serum mixed with lymph. In the uterus the morbid appearances were generally confined to its peritoneal covering, which was coated with lymph, on removing which the membrane itself was

found unnaturally red; but in some cases the disease had penetrated deeper into the uterus, the substance of which was sometimes infiltrated with pus, and sometimes contained small abscesses about the size of a nut; the inner surface of the uterus especially at the fundus, often appeared black and ragged, as if gangrenous. The enlargement of the abdomen depended entirely on air in the intestines; when there was no air there was no enlargement, even though the peritoneum contained several pints of fluid. The first time I notived this was in the body of a young woman who had died with all the symptoms of puerperal fever excepting the tumid belly. When the body was lifted from the bed on to the board on which it was to be opened, the belly instead of being tumid was sunk and hollow, and we began to think that her case had been mistaken; but on opening the abdomen we found several pints of turbid fluid.

The disease generally began very suddenly. After being quite well, feeling no sense of illness, or at least making no complaint, the patient was seized at once with chilliness, or shivering, and pain in the belly, and the pulse rose to 120 or 130; but sometimes the attack was more gradual. For many hours, or even for a day or two, there were pain and tenderness in one part of the abdomen, then in another, with long intervals, in which there was no pain anywhere; and during all this time the pulse would remain quiet, or not quicker than 80 or 90. In short the disease would have an incipient stage, but this was not a common occurrence."

The following is the mode of treatment which the author, after unsuccessfully trying other methods of cure, was led to adopt.

"I now found that, provided I saw the patient within a few hours of the attack, I could *generally arrest the disease. The mode of treatment* was as follows. A vein was opened in the arm, with a wide orifice, so that the blood flowed in a full stream, and it was allowed to flow till the patient felt faint; the arm was then tied up, and her head was raised so as to encourage the faintness for many minutes. As soon as the faintness had subsided, she took from ten to twenty grains of calomel in a tea-spoonful of arrow-root, and afterwards half an ounce of sulphate of magnesia dissolved in beef-tea or thin gruel, every other hour, until several copious evacuations were procured from the bowels; when the patient had thoroughly recovered from her faintness, from ten to twenty leeches were applied to the painful and tender parts of the abdomen; when the leeches had fallen off, a bag long and broad enough to cover the whole abdomen, was stuffed with hot poultice which was spread so as to form a cushion nearly an inch thick; this was laid hot over the whole abdomen, and renewed so often as to keep up heat and moisture. If the patient complained of the weight of the poultice, the bag was stuffed with scalded bran. We found this application of infinite value, not only as a means of en-

couraging the bleeding of the leech bites, but also as a perpetual fomentation."

Dr. G. insists strongly on the importance of keeping in view the different object of local and general blood-letting. The former relieves the general inflammatory diathesis—the latter relieves local congestion. Leeches cannot fulfil the indications which require the lancet, and would be useless so long as the activity of the circulation is kept up by the undiminished action of the heart. When this has been subdued, local depletion will relieve the pain and vascular engorgement which may continue after general depletion has been carried as far as prudence will justify.

After waiting the combined effects of these remedies, Dr. G. determined whether a second bleeding was to be resorted to or not; but it is to be borne in mind that the active treatment which is to determine the fate of the patient should be completed during the first day, for so rapid is the tendency to peritoneal effusion, that the later application of remedies is attended with very diminished chances of success.

After full depletive measures had been resorted to, sufficient tenderness sometimes remained to occasion anxiety about the fate of the patient, which were promptly relieved by a full opiate, and a warm poultice to the abdomon.

Dr. G. also remarks that the large and repeated doses of calomel which he was in the habit of giving, frequently produced soreness of the gums, and that he never saw a case terminate fatally after this event took place, although the symptoms were sometimes of the most alarming character.

The author illustrates his mode of treatment by a number of cases which we are compelled to pass over. He then remarks, that in common with the rest of the profession, he entertained the opinion, for a number of years, that the group of symptoms which indicate puerperal fever. uniformly pointed out a similar disease, to be combatted, under all circumstances, by a practice conducted upon similar principles. But a number of cases having fallen under his observation which terminated fatally under the usual depleting remedies, and in which no traces of inflam-

mation were found on dissection, and of others which were successfully treated by opiates and fomentations, he was led to adopt different views. We shall leave him to express his own conclusions.

"These cases opened to me a new view of the subject; they taught me that lying-in women might have permanent pain and tenderness of the abdomen, with a rapid pulse, and independent of acute inflammation of the peritoneum, or any other part; that these symptoms may depend on a state which blood-letting does not relieve, and which, if this remedy is carried as far as it requires to be carried in peritonitis, may terminate fatally; and that the most effectual remedies are opiates and fomentations. Most of the patients who were the subjects of these attacks were women who in their ordinary health were delicate and sensitive. The attack sometimes seemed to originate in violent after-pains, gradually passing into permanent pain and tenderness, resembling inflammation, or in the painful operation of an active purgative; but it could sometimes be traced to no satisfactory cause; the patient had a common labor, and had experienced no unusual cause of debility or irritation. The pulse in all of these cases, although quick, was soft and feeble: this together with the previous constitution of the patient were my chief guides; when I could trace it to any irritating cause, such as a griping purge, and when blood had, been already drawn without relief, and without being buffed, I saw my way still clearer. When I doubted, I applied leeches to the abdomen.

The cases which I have related, and others similar to them, were speedily and completely relieved by the remedies which I have mentioned. There seemed to be nothing dangerous in this form of disease, provided the nature of it was not mistaken, and improper remedies not used; yet it so strikingly resembled peritoneal inflammation, that it was invariably taken for it by the practitioners who witnessed it, all of whom possessed at least that average quantity of sense and knowledge on which the public must extensively depend. These cases though sufficiently numerous to attract my notice, and produce a strong impression on my mind, were nevertheless only occasional occurrences. I had never seen them in numbers at the same time; they occurred at comparatively long intervals, and at times when there was no prevalent disease among lying-in women; they resembled sporadic diseases both in the rarity of their occurrence, and in the facility with which they were cured. At the hospital I saw two or three cases, in which after the ordinary symptoms of puerperal fever had terminated fatally, and the body was opened, the usual morbid appearances were not found; nothing appeared but a moderate quantity of fluid slightly stained with blood.

The author remarks that these and many similar cases have convinced him that there is a form of peritoneal fever which, al-

though it has the ordinary symptoms, is very different from the peritoneal fevers which prevailed between 1810 and 1820—different in its duration which is shorter; in the way in which it is affected by blood letting; and lastly in the morbid appearances discovered after death. It may, like the acute inflammatory form, occur sporadically, when it is easily cured by opiates, fomentations, aperients, assisted sometimes by leeches, or it may be epidemic, and consequently more malignant.

The most remarkable circumstance which the experience of the last few years had taught us about peritoneal fever is, that they may occur in their most malignant and fatal form, and yet leave few or no vestiges in the peritoneum after death. The state of this membrane, indicated by pain and tenderness of the abdomen, with a rapid pulse, appears to be not one uniform state, but one which varies so much in different cases, that a scale might be formed of its several varieties; this scale would begin with little more than a nervous affection often removable by soothing remedies, and when terminating fatally, leaving no morbid appearances discoverable after death. Next above this, a state in which this nervous affection is combined with some degree of congestion, indicated in the cases which recover, by the relief afforded by leeches, and in the cases which die, by slight redness in parts of the peritoneum, and a slight effusion of serum, sometimes colorless, sometimes stained with blood. Above this might be placed those cases in which there are, in the peritoneum, the effusions of inflammation without its redness, namely, a pale peritoneum and no adhesions, lymph like a thin layer of soft custard, and a copious effusion of serum rendered turbid by soft lymph. Lastly, the vestiges of acute inflammation of the peritoneum, namely, redness of this membrane, adhesion of its contiguous surfaces, a copious effusion of serum, and large masses of lymph.

Dr. G., in concluding the paper, thinks himself justifiable, from the history of the cases he has published, in deciding that the disease, under different circumstances, possesses different characters, and requires a diversified treatment. His opinion could not be better expressed than in the following quotation from Sydenham.

Sydenham, who, in speaking of epidemic diseases, tells us that their difference is apparent not only from their peculiar symptoms, but also from the different methods of cure they respectively require; that though they seem to agree in their external face, and certain symptoms in common, they are in reality of very different and dissimilar natures; that the same method which cures in the middle of the

year may possibly prove destructive at the conclusion of it; and that, when a new species arose, he was doubtful how to proceed, and, notwithstanding the utmost caution, could scarce ever preserve one or two of his first patients from danger.' There are no diseases to which these remarks are more applicable than the peritoneal fevers of lying-in women.

For combatting the different forms under which the disease presented itself, Dr. G. recommends five as possessing the greatest body of evidence in their favor.

1. *Bleeding and purging.*

Thus, when the prevailing diseases are inflammatory, and are best cured by depletion, when the pulse at the beginning of the disease is vibrating, hard, or, although small, is incompressible, when the skin is not only hot, but dry, and when, after the treatment of a few cases, it appears that those have recovered best in which bleeding and purging have been used early and fairly, there is every reason to believe that we have lighted on an inflammatory epidemic, and that depletion is the means on which we must depend for the cure.

2. *Emetics of Ipecacuanha.*

The conditions under which they ought to be given are these:—1 they are to be used at the instant of attack; 2. they are to be repeated every day till the symptoms are subdued; 3. in the intervals between the operation and the emetic, a potion is to be given, composed of oil of almonds, syrup of marshmallows, and Kermes' mineral; 4. the diet is to consist of nothing but linseed tea, or something equally bland and unheating.

3. *Calomel.* The efficacy of mercury in inflammations of the eye, the liver, and the pericardium, and the inadequacy of blood letting to overcome inflammation in these organs without its assistance, give it a claim to a trial, in peritoneal inflammation. Dr. G. has never relied upon it. He has often given it, however, and has never seen a patient die when salivation was produced; although in some cases the disease has been fatal before salivation could be produced. It is now, we believe, generally admitted, that the constitutional effects of mercury can seldom be relied upon where blood letting is clearly indicated. During the use of calomel, opium is generally necessary, especially if there be severe pain, profuse purging, or a sinking of the general circulation. When the gums are sore, or the disease

has yielded, the calomel should not be suddenly withdrawn, but continued for some time in smaller doses and at longer intervals.

4. *Opiates internally, and hot Poultices to the abdomen.*

There is a class of cases attended by pain and tenderness of the abdomen, with a rapid pulse, which does not require bleeding, which does not bear it to the extent to which it is necessary in the inflammatory peritoneal fevers, and which is speedily and effectually cured by opiates internally, with hot poultices to the belly, aperients, and sometimes leeches. There is reason to believe that this form of the disease is present when the patient in her ordinary health is delicate and nervous—when the pain and tenderness have followed any irritating cause, such as severe after-pains, or a griping purge—when the pulse, although quick, is perfectly soft, and even weak, and this opinion is strengthened if blood has been drawn without relief, and without the signs of inflammation on its surface. The best way of treating these cases is to wash out the large bowels by a very large glyster, to give ten grains of compound powder of ipecacuanha every three hours, till the pain is gone, to keep the abdomen constantly covered with a warm linseed meal poultice, and after the pain has ceased, if the abdomen continues sore and the pulse quick, to apply leeches, and give a mild purge. When I doubt the nature of the case, I apply leeches at the beginning."

5. *Oil of Turpentine.* Although Dr. G. has not been successful with this remedy in his own practice, he thinks we are authorized to conclude from the testimony of competent witnesses, that there is a class, or, perhaps, a stage of these fevers in which it is highly efficacious. He does not however decide upon the circumstances in which it is proper, nor the manner in which it is to be given.

Chapter II. *On Disorders of the Mind in Lying-in Women.*

Dr. G. remarks, that during the whole period of pregnancy and nursing, females are liable to disorders of the mind, but there are two periods when they are peculiarly liable to occur—"soon after delivery, when the body is sustaining the effects of labor"—or, "several months afterwards, when the body is sustaining the effects of nursing." When it occurs as the consequence of nursing, it generally appears in the form of melancholia. Dr. G. does not give a general description of its symptoms, but refers his readers to a number of cases which he has recorded, and which are indeed truly valuable. For these we

must refer our readers to the work itself, having room to give only a general idea of the causes of the disease, its character, and the most suitable remedies.

Of the causes, one of the most important is undoubtedly *constitutional predisposition.* Dr. G. remarks.

> Of the causes which I have seen, a large proportion have occurred in patients in whose families disordered mind had already appeared. The patients too were of susceptible dispositions, nervous, remarkable for an unusual degree of that peculiarity of nerve and of mind, which distinguishes the female from the male constitution.

2. *Disordered condition of the Digestive Organs.* In one of Dr. G's patients, three successive attacks were connected with jaundice, and in a fourth pregnancy, the jaundice having been relieved before her confinement by suitable remedies, she escaped the disease. In some other cases the disease was manifestly connected with this condition, and promptly relieved by correcting it.

3. The disease has been attributed to *suppression of the milk,* in consequence of weaning; but Dr. G. states he has never known it to occur in those females who never nurse their children, and suppress their milk without ever having their breasts drawn; and where disease has occurred at a later period, the patient has been directed to wean the child, because she had not strength to enable her to nurse it. The mind has sympathized with the gradual impairment of the health, and to depression of spirit, listlessness, and loss of memory, has succeeded derangement.

4. It has been also attributed to *suppression of the lochia,* and although we might admit with Dr. G. that it would be absurd to attempt the cure of the disease by restoring this discharge, we cannot, especially, if with the author, we admit uterine derangement to be the efficient cause of the disease, treat the idea as entirely absurd.

5. The opinion of Dr. G. is, that the cause of the disease is to be sought for in *that peculiar state of the sexual system which occurs after delivery.*

The sexual system in women is a set of organs which are in action only during half the natural life of the individual, and even during this half they are in action only at intervals. During these intervals of action they diffuse an unusual excitement throughout the nervous system; witness the hysteric effects of puberty, the nervous susceptibility which occurs during every menstrual period, the nervous affections of breeding and the nervous susceptibility of lying-in women. I do not mean that these appearances are to be observed in every instance of puberty, menstruation, pregnancy, and child-bed, but that they occur sufficiently often to show that these states are liable to produce these conditions of the nervous system.

The prognosis in this disease is for the most part favorable. Some however die of this disease, and the prognosis therefore is to be guarded. Dr. Baillie is said to have remarked in relation to a patient who died soon after, "that the question was not whether she was to get well, but when she was to get well." The opinion of Dr. G., supported by that of Dr. Hunter, is that there are two forms of puerperal mania, the one attended by fever, or at least by a very rapid pulse, the other accompanied by a very moderate disturbance of the circulation; that the latter cases which are by far the most numerous recover; that the former generally die."

As to the duration of the disease, Dr. G. remarks that mania is a less durable disease than melancholia—more dangerous to life, but less dangerous to reason. Of the many cases about which Dr. G. had been consulted, only two remained permanently deranged, and one of these had been so before her marriage. He has known but one case in which the disease returned a second time.

Treatment. 1. The attendants upon the patient should be such as will effectually controul her by mild but decided conduct—a task that can seldom be well executed by her own servants or relatives.

2. As there is often a propensity to suicide, every means and opportunity for self injury should be carefully guarded against. Experience is in favor of exclusion from society, especially from that of relations. "*The husband should never be left alone with his deranged wife for obvious reasons. I have known more than once a neglect of this rule produce consequences which, left in the minds*

of those concerned, a never-ending regret. On this subject, a candid appeal should be made to the sense and feelings of the husband." Cases may occur in which some interruption to this solitary life may be advisable.

When the disease has lasted long, when the patient expresses a strong wish to see some near friend, when she entertains illusions which the sight of some one may efface, the admission of such person is worth a trial. I shall be told, that when patients are mending, or have recovered, the most common cause of relapse is too early an introduction to friends, and too early a return home. When the patient is recovering, or has recovered, I do not recommend these measures.—It is when the patient has not recovered, and is not recovering, that I advise them to be tried; when month after month passes without any amendment, and her mental delusions assume a shape accessible to moral impressions, then it is that I would advise an interview with a friend.

The diet should generally be as nutritious and cordial as the impaired condition of the digestive organs will admit of the patient's using.

The medicinal agents which have been employed are

1. *Blood letting* general or local. Dr. G. thinks this remedy is almost always injurious. If there are marks of inflamation or congestion of the brain, local blood letting may be used, although with very great caution. Of the cases with a quick pulse which Dr. G. has seen, those only have recovered in which this remedy was not resorted to.

2. *Emetics and purgatives*, to evacuate the primæ viæ and amend the secretions which flow into them. The influence of emetics upon other mental disorders, would recommend their employment in this disease, especially if the symptoms of gastric derangement are present. Ipecacuanha is preferable to the preparations of antimony. It should be given in a full dose and its operation promoted by a free use of warm water. Where there is any reason to suspect bilious derangement or irritation of the bilious secretions, such purgatives will be selected as will operate effectually and with as little expense to the powers of the stomach or of the general system as possible—blue mass, jalap, alœtic preparations, &c.

3. *Narcotics*, are in the opinion of the author, the most valuable remedies in this disease. As soon as the flush of the cheek and other slight febrile symptoms which accompany this disease are relieved, such narcotics as agree best with the patient should be given systematically until the patient is brought under their influence. When this effect is obtained it should be kept up by diminished doses repeated at proper intervals, and occasional full doses if necessary. When opiates have effected their object they should be withdrawn gradually by diminishing the dose and lengthening the interval, carefully watching their effects, prepared to renew them if any injurious effects result from this suspension.

4. If the disease becomes protractod, the strength is to be sustained by the *mineral acids*, *bitters*, or under some circumstances, bark.

Chapter III contains many interesting remarks, with some valuable cases in illustration, *upon the mode of distinguishing Pregnancy from the diseases which resemble it*,

In illustration of the fallibility of the ordinary signs of pregnancy, the author has the following remarks.

1. Many women assert that they have menstruated regularly during the early months of pregnancy: whether this is really menstruation, or a periodical hæmorrhage from partial separation of the ovum, is not the question, but whether, during the first months of pregnancy, there may not occur a monthly discharge of blood which in period and duration so far resemble menstruation, that the patient is unable to distinguish it; and about this there can be no doubt. As to sickness, there is an infinite variety in the degree in which it occurs in pregnancy; some persons are sick day and night, during all the nine months; others never feel the slightest nausea from the moment of conception to that of delivery. In thin women the enlargement of the breasts is often very slight; and in fat women the breasts form so small a proportion of the bosom, that any enlargement of the former is scarcely perceived. In very fair women with light hair and eyes, the discolouration of the areola is often so slight, that it is difficult to perceive it; and in brunettes who have already borne children, the areola remains dark ever afterwards, so that this ceases to be a guide in all subsequent pregnancies. The enlargement of the abdomen from the third month to delivery, is in all cases present and progressive whilst the fœtus is alive; but it may die, and yet be retained till the ninth month, in which case the enlargement will not be progressive. The same may be said of the movement of the fœtus; it will not move if not alive, and there

are cases, though rare, in which it has not moved during the whole of pregnancy, although it has been born alive and vigorous; of this I have known one instance, and read of others. Thus a woman may be pregnant though she seems to herself to continue to menstruate, has no sickness, or enlargement about the breasts, or darkness of the areola, or progressive enlargement of the abdomen, or perceptible movement of the fœtus. Such a complete assemblage of omissions however is not likely to meet in the same case.

2. A woman may have apparently all the symptoms of pregnancy, and yet not be pregnant: menstruation may be stopped by other causes; when it ceases suddenly in a woman of healthy constitution, who had previously menstruated with perfect regularity, it is a strong symptom, but there are women of feeble constitutions who, without being pregnant, frequently pass months without menstruating; in such a person the omission of menstruation proves nothing. Sickness may be produced by other causes besides pregnancy; and when it arises from a weakness of stomach, the morning is the time when it is most distressing. The bosom may enlarge because the patient is growing plump. Some have laid great stress on the darkness of the areola, thinking that no other state besides pregnancy is capable of producing it. I saw two young and newly-married women within two days, who had made preparations for lying-in, and who were not pregnant. In both, the areola was dark, though (if their history is to be trusted) they never had children. I believe, however, that darkness of the areola rarely depends on other causes, and that when it exists it may generally be looked upon as a sign either that the patient is pregnant, or has been so formerly. The abdomen often enlarges from flatulence, dropsy, and other diseases so as to equal or exceed the bulk of pregnancy. As to the movements of the child, it is very important to distinguish between these movements as felt internally by the patient, and as felt externally by a hand applied to the surface of the abdomen; the latter, if really felt, is an infallible sign of pregnancy, but the former are often felt when there is no child. Thus a woman may cease to menstruate, have sickness, enlargement of the bosom, and darkness of the areola, a progressive enlargement of the abdomen, and sensations which resemble those produced by the movements of the child, without being pregnant.

The occasional uncertainty of all these signs, renders something additional requisite. Whenever therefore a positive decision upon the subject becomes necessary, an *examination by touch* should be resorted to.

In this examination two cases are to be decided. 1st. whether the enlargement of the abdomen depends upon enlargement of the uterus, and if so, 2nd, whether the enlarged uterus contains a foetus. The examination may be made, either *external-*

mour distending the abdomen.

We are next to attend to the appearance of the umbilicus. When the uterine tumor rises to the level of the umbilicus, or a little above it, the depression at the umbilicus is gradually elevated, and by the seventh or eighth month is entirely removed. The elevation of the umbilicus may be produced by any other firm tumor distending the abdomen, but its absence at a late period of imaginary pregnancy, proves that the distension does not proceed from a foetus.

The motion of the child which may almost always be produced by suddenly laying the cold hand upon the belly, is among the most infallible signs.

On making the internal examination, we attend first to the neck of the uterus. This in the unimpregnated uterus is a firm fleshy nipple, projecting into the vagina two thirds of an inch. The obliteration commences about the fifth month, later in first pregnancies, the neck becoming broader, softer and shorter. The neck is not entirely obliterated until a week or two before parturition.

The enlargement of the uterus is the next point of enquiry. This information will be more certainly obtained by pressing at the same time upon the tumor externally.

The child in the uterus is surrounded by the liquor amnii, with the head, when the woman is in the erect position, resting upon the os uteri. By suddenly pushing the distended uterus, the head of the child recedes from the point of the finger, and again, a moment after, is felt falling upon it. This is a proof of pregnancy not less certain than the motion of the child, and has this advantage over the latter that it can be felt whether the child be dead or alive.

CHAPTER IV.—*On Polypi of the Uterus.*—Dr. G. thinks that this disease is of far more frequent occurrence than is generally supposed, and that it is very frequently mistaken for hemorrhage from the uterus.

"A polypus of the uterus, when discovered, is a tumour in the vagina attached to some part of the uterus. It is round, smooth, firm, and insensible; it is quite unattached to the vagina, so that the finger can be

pressed round between the walls of the vagina and the surface of the tumour; but if traced higher up, it is found to terminate in a narrower part of stalk. This stalk is differently attached in different cases; in some it passes through the orifice of the uterus into its cavity, and is attached to the fundus of this organ; in others, it passes into the cavity of the neck, to one side of which it is attached; in others it does not enter the orifice, but is attached to one portion of its edge or lip; hence a distinction of polypus of the fundus, polypus of the neck, and polypus of the orifice. This distinction must not be lost sight of, for it is of practical consequence. In ascertaining the nature of the tumour for the purpose of determining the propriety of removing it by an operation, the mode of its attachment is one of our chief guides; and in this respect what is true of polypus of the fundus, is not so of polypus of the neck or lip.

In polypus of the fundus the stalk is completely encircled by the neck of the uterus, and if the finger can be introduced into the orifice, it passes easily round between the stalk of the polypus and the encircling neck.

In polypus of the neck the finger cannot be passed quite round the stalk; it may be passed partly round it, but it is stopped when it comes to that part where it is attached to the neck, the stalk is only *semi*-circled by the neck.

In polypus of the edge of the orifice or lip, the stalk does not enter the orifice, but grows from the edge of it; it feels as if a portion of the lip was first prolonged into the stalk, and then enlarged into the body of the polypus. It is important to remember that there is a polypus, the stalk of which is not encircled by the orifice of the uterus; if it grows from the orifice it cannot be encircled by it.

When a polypus grows within the uterus, it dilates its cavity, neck, and orifice, as in pregnancy. Instead of the orifice of the projecting part of the neck forming a narrow chink in a firm thick nipple, it is a round space with thin edges, as in somewhat advanced pregnancy. In polypus of the neck and that of the lip, the projecting part of the uterus preserves more of its ordinary form and consistence."

The tumors most likely to be mistaken for a polypus are: 1, the prolapsed uterus; 2, the inverted uterus; 3, malignant excrescences from the uterus. The sensibility of the tumour, the well defined form of the uterus, the obstruction to passing the finger, from the fold of the vagina, and the relief produced by pressing up the tumor, would, we presume, enable the most hasty observer to distinguish the former of these from polypus.

The diagnosis between inverted uterus and polypus is more perplexing,——the most distinguishing marks are, the circumstances under which the former occurs, almost always immediately after parturition, and the sensibility of the tumor.

A more frequent subject of doubt is whether a tumor projecting from the uterus into the vagina is a common polypus admitting of a cure, or a malignant excrescence. The diagnosis is very difficult Dr. G. recommends that in all cases, where there is a stalk admitting of the application of a ligature without danger of including the uterus, the experiment should be tried and that it will very generally succeed, altho' the general character of the tumor may indicate a disease of much more serious character.

If polypus of the uterus is overlooked or neglected, the patient generally dies of hemorrhage. Dr. G. therefore recommends that whenever a flow of blood from the uterus proves obstinate an examination by touch should be instituted. If polypus exists, its removal should be immediately attempted either by the knife or by ligature.—He prefers the latter as more safe and successful.

Unpleasant accidents have sometimes followed the application of the ligature. Dr. Denman lost a patient under these circumstances, and after death the ligature was found applied to the inverted uterus. The same accident occurred to Dr. Hunter, and, what rendered the case more remarkable, in a female who had never been pregnant. Dr. G. and several other practitioners have been similarly unfortunate.

By observing the following rules, Dr. G. thinks the accident may be avoided: 1 Pass the ligature as low upon the neck of the tumor as possible, taking care to include the body of the tumor. When the tumor is separated the stalk will die and fall away. 2, If the polypus arise from the cervix uteri, the os uteri if it can be felt will be the best guide; if it cannot be distinguished, sufficient allowance must be made for the usual length of the cervix. 3, To attend to the sensations of the patient when the ligature is tightened. As soon as the ligature is tightened the hemorrhage ceases, & after a time a fetid discharge takes place from the vagina which continues until the separation is effected. This occurs sooner or later according to the size of the neck, and the frequency with which the ligature is tightened—from two to eight or ten days. When the polypus is of small size it comes

away of itself—if larger it is expelled by the contractive power of the uterus, or manual interference may be necessary.

The size of the stalk of the tumor, Dr. G. thinks, is no further an objection to the operation than that it renders it more tedious. It is also his opinion that the tumor is generally single, and consequently, that when one is removed the patient may for the most part be considered as cured.

In the conclusion of the chapter the author speaks of some unusual circumstances accompanying polypi :

"In a vast proportion of cases—to speak in numbers, in nine out of ten—to whatever part the stalk grows, frequent hæmorrhages from the uterus form the symptoms of the disease, which attracts the chief attention of the practitioner, and the case is long mistaken for common menorrhagia; but when the tumour grows from the neck or lip of the uterus, it sometimes occasions nothing but an obstinate and profuse leucorrhœa.

Women who have a polypus of the uterus, especially if it grows from the neck or lip of this organ, sometimes become pregnant. Of this I have known two instances. In one the tumour was discovered in the fifth month of pregnancy, and was removed by the ligature. The pregnancy went on to the ninth month, when the patient was safely delivered. In the other case the tumour was not discovered till the commencement of labour, and occasioned the death of the patient a few hours after delivery.

When the polypus grows from the lip of the uterus, and its stalk is very thick, as two or three inches in diameter, the other lip and the orifice of the uterus are quite lost, and cannot be detected by touch.

I have seen the most experienced practitioners in London puzzled to tell what was the nature of the tumour, and what ought to be done for it.

A polypus may have an unusual form, as that of a solid cylinder ; it is generally globular or pyriform, with a stalk like an elastic gum bottle; but I have seen two cases in which it was cylindrical, about the size of half the wrist, and the unusual form occasioned great doubts about the nature of the case and the mode of treatment.

A polypus is sometimes so small, that it seems incredible it should occasion the frequent hæmorrhages which attend it, yet the hæmorrhages cease on the removal of the polypus. I have felt them as small as a filbert without its shell, growing to the neck or lip of the uterus; they were so small, that on being touched they slipped into the orifice of the uterus, and there remained concealed till the finger was withdrawn, and the patient sat up, and they dropped down again into the vagina.

These little polypi are generally too small for the ligature ; and if they cannot be pulled away with the finger, should be twisted off by a pair of surgeon's dressing forceps."

Chapter V. is devoted to the *Irritable uterus*—"a painful and tender state of this organ, neither attended by, nor tending to produce, change in its structure," a species of neuralgia analogous to what Sir A. Cooper has described under the name of irritable tumour of the breast. Mr. Brodie has also described a similar disease of the joints, both occurring chiefly amongst hysterical females.

The following is Dr. G's. description of the disease,

"A patient who is suffering from the irritable uterus complains of pain in the lowest part of the abdomen, along the brim of the plevis, and often also in the loins. The pain is worse when she is up and taking exercise, and less when she is at rest in the horizontal posture; in this respect it resembles that of prolapsus uteri, but there is this difference, that in the latter, if the patient lies down, she soon becomes quite easy; but in the complaint of which I am speaking, the recumbent posture, although it diminishes, does not remove the pain. It is always present in some degree, and severe paroxysms often occur, although the patient has been recumbent for a long time. If the uterus is examined, it is found to be exquisitely tender, the finger can be introduced into the vagina, and pressed against its sides without causing uneasiness, but as soon as it reaches and is pressed against the uterus, it gives exquisite pain.

The pulse is soft, and not much quicker than is natural; but it is easily quickened by the slightest emotion. In a few instances, however, there has been a greater and more permanent excitement of general circulation; the degree in which the health has been reduced has been different in different cases. A patient, who was originally delicate, who has suffered long, and has used much depleting treatment, has been (as might reasonably be expected) the most reduced; she has grown thin, pale, weak and nervous; menstruation often continues regular, but sometimes diminishes, or ceases altogether; the functions of the stomach and bowels are not more interrupted than might be expected from the loss of air and exercise; the appetite is not good, and the bowels require aperients; yet nothing more surely occasions a paroxysm of pain than an active purgative.

The causes to which this disease has been attributed, and after the application of which it has occurred, are generally considerable bodily exertions at times when the uterus is in a susceptible state. In one patient it came on after an enormous walk during a menstrual period; in another, it was occasioned by the patient's going a-shooting with her husband not many days after an abortion; in a third, it came on after standing for several hours many successive nights at concerts and parties; in a fourth, it originated in a journey in a rough carriage over the paved roads of France; in a fifth, it was attributed either to cold or an astringent lotion, by which a profuse lochia was suddenly stopped, followed by intense pain in the uterus; in a sixth it occurred soon af-

ter, and apparently in consequence of, matrimony. Although however, the disease followed, and was apparently excited by these several causes of irritation, yet the patients had previously manifested signs of predisposition to it; they were all sensitive in body and mind, many of them had been previously subject to the ordinary form of painful menstruation. The disease seemed to consist in a state of the uterus similar to that of painful menstruation, only permanent instead of occasional."

As to the treatment, the author has nothing satisfactory to offer. The different authors who have treated on neuralgia may be consulted.

Chapter VI. is devoted to a *Peculiar form of the Hemorrhage from the uterus*, described as occurring after such a degree of uterine contraction has taken as is generally supposed to secure the patient against hemorrhage and taking place in the same female in successive labour. Dr. G. recommends the left hand to be passed at once into the womb to the position occupied by the placenta and there to act as a tourniquet while counter pressure is made with the right upon the parietes of the abdomen. When a female is discovered to be liable to this form of hemorrhage, proper attention should be paid to the circulation during pregnancy and parturition. F.

Art. VII *Epidemic Cholera—Its History and Ætiology.*

An Eclectic Review.

We are incredulous as to the assertion, that the present invasion of Epidemic Cholera has destroyed fifty millions of human beings, but of the fact, that it has spread eastwardly from the Delta of the Ganges to the Islands of the Pacific ocean; and, at length, as if in quest of new victims, turned westwardly and traversing Europe, has crossed the Atlantic, there can be no dispute. About the 8th of June, 15 years after its appearance on the jungly banks of the sacred river, we find it engaged in the work of death on the shores of the St. Lawrence; and threatening to

ascend into the region of inland seas, which give sublimity and beauty to the interior of the new world. That it will descend upon the valley of the Mississippi, and carry dismay and temporary desolation throughout the beautiful and happy regions of the West, let us not presume to doubt.

The question has been often asked, is not this disease identical with the cholera morbus of the countries which have been scourged? It *may* be ; but if so, some cause has been acting, progressively, to aggravate the ordinary epidemic, into a degree of malignity which it never displayed before. For ourselves, we think it bears to cholera morbus, a relation similar to that of the influenza to a common cold from changes of weather.

But will not the disease be modified in a favorable way, by the climate or state of society in the United States? It is impossible to answer this question in a satisfactory manner. The reports from Montreal and Quebec represent it as still more fatal than it ever was on the banks of the Ganges, the Volga or the Thames; but the shores of the St Lawrence present a floating and indigent population, among which it could not fail to revel; and when it reaches a country comparatively exempt from want, it *may* assume a milder character ; at present however, we can only indulge in conjectures. Let us proceed to its history.

The present Epidemic seems to have commenced, in the year 1817, in the Delta of the Ganges. The first accounts of it were from the City of Jessore 80 or 100 miles N. E. of Calcutta, in the month of August ; but it was afterwards ascertained, that it prevailed in some parts of Nuddecca, as early as the month of May. Before winter, it laid waste a great number of towns along the Ganges, and in various parts of the peninsula of Hindoostan, including Calcutta, where it manifested itself early in August. Thus during the same unpropitious summer, the Epidemic broke out, almost simultaneously, in different and distant places.

It is not our design to trace its progress from year to year over Asia, till it entered Europe in 1829; but we may remark, that for a period of 12 years, it prevailed constantly in some part of Asia. Extending eastwardly, it invaded Siam, Cochin China, China proper, and even reached Pekin in 1825. Leaving the

Continent, it visited Java, the Phillipines and many other Islands, extending to Banda, in the Pacific Ocean, in longitude 128 deg. E. To the south of the Indian peninsula, it assailed the island of Ceylon and even reached Bourbon, in the southern hemisphere. To the west, it passed the Indus, meandered the northern shore of the Persian Gulph, ascended the Tigris and Euphrates, and arrived at Antioch, Aleppo and other places, near the eastern extremity of the Mediterranean. Arabia seems to have resisted its progress to the south, but to the north, different parts of the Persian Empire, were signally scourged, and the pestilence spread quite to the sources of the Ganges and Indus. The Himmalah mountains, alone seemed to stay its progress.

Before proceeding to trace the course of the Epidemic in Europe, let us enumerate some of the facts connected with its Asiatic History.

1. As already stated it appeared in various places, nearly at the same time.

2. After visiting a town or city it frequently within a few months, or in some subsequent year, returned upon it, with equal or greater violence.

3. It often left towns and narrow slips of country unaffected, prevailing quite around them; and sometimes attacked them subsequently, when adjoining places were healthy.

4. It affected both town and country, but most of the reports concerning it, are drawn from the former.

5. In towns, it has generally raged with the greatest virulence, where the population was most dense. It has sometimes confined itself to one side of a street, and often left considerable portions of a city untouched, although free intercommunication existed.

6. In several instances it has seemed to be introduced into towns by ships or caravans of travellers; at least has commenced soon after their arrival, and spread rapidly, when it did not exist there before.

7. It has frequently arisen in towns, which had not had any intercourse, with places in which the disease prevailed. It has

appeared in ships at sea, which for a long time before had not been exposed to it on land.

8. It has constantly been disposed to assail large assemblages of people.

The armies of Asia have been peculiarly obnoxious to it. When marching they have been suddenly and mortally assailed. Whenever the army has dispersed in small bands, the disease has ceased. One wing of an army has sometimes been affected while the other continued healthy. A detachment of troops has sometimes, while affected with the disease, rejoined the main army, without communicating it. A marching army has been suddenly attacked and as suddenly relieved, by changing its place of encampment. In marching, the disease has appeared and disappeared, in an army, two or three times, according as it prevailed or did not prevail, in the districts over which the march was directed.

10. All over Asia, it has prevailed most on the margins of rivers, near their mouths, and in other damp and vaporous localities.

11. It has prevailed on one side of a river for some time, and then crossed to the other.

12. Sometimes it has attacked the inhabitants of dry and elevated places—It has even ascended to the height of 5 or 6,000 feet.

13. It has often traversed countries in the direction of their great roads, but to this there are many exceptions.

14. It has equally affected the Hindoos, the Europeans resident in India, and the natives of that country, descended from European parents.

15. Every where in Asia it has fallen most heavily upon the alarmed ; the poor; the aged and those enfeebled by previous disease or great exertions; those who lodged in confined, damp, and dirty places; the intemperate; the half famished, and those who exposed themselves to the night air.

16. In India it has generally affected adults much more than children; and men more than women; in some places, however, the reverse of the latter has occurred.

17. Cholera patients have often been received into the general hospitals, without communicating the disease to the patients already there, on the other hand, the disease has sometimes seemed to spread in this manner.

18. Physicians and nurses, have been observed to be less subject to attacks, than other people; but they have occasionally been affected, and in a few instances have appeared to contract the disease from such exposure.

19. The disease has sometimes prevailed throughout all seasons of the year, but generally has been suspended in winter.

20. In most instances, its invasions has been sudden, and like other epidemics, it has been most fatal at the onset. The subsequent cases have become milder and more manageable. At length it has disappeared, leaving, in many places, a large number untouched. The proportion of those affected by it has varied exceedingly in different towns. Its duration has sometimes not exceeded a fortnight, but in other cases it has continued for two or three months. In general, the more dreadful the energy of the invasion, the shorter has been its duration.

21. In various parts of India and Persia, earthquakes have occurred several times since the Epidemic first arose. In one instance, it appeared with great mortality in a body of troops, immediately subsequent to a violent tornado. At other times, it has ceased after thunder storms.

22. The winds have not seemed either to hasten or retard the march of the Epidemic.

23. It has *commonly* made its attacks in the latter part of the night.

24. In many places, mortal diseases in the domestic animals, both birds and quadrupeds, have been observed to precede, accompany or follow, its visitations upon the inhabitants.

25. It has not ceased in Asia since its introduction into Europe.

Such are the principal and the most important results of the observations made in Asia. Let us now turn our attention to Europe.

For 12 years the Epidemic ravaged India, Persia, and Syria,

without passing the borders of the Caspian sea—and the summit of the Ural mountains. In the month of August 1829 it entered Russia. The town of Orenburg situated on the right bank of the river Ural, in latitude 51 degs. N. and longitude 72 degs. E. has generally been regarded as the place first affected. We shall transcribe from the elaborate report of a committee of the French Academy of Medicine, made to the government in July 1831, what seems to be an impartial digest of the facts in this case.

"Behold then the Cholera primarily established in a city which scarcely presented any general cause of insalubrity. It is true, that the season, immediately preceding that in which the epidemic appeared, had been irregular, inconstant, and marked by great atmospheric vicissitudes; the humidity especially had been great and sudden, succeeding prolonged heats and extreme drought.

It is also true, that a considerable quantity of fruits of an indifferent or bad quality had been gathered in this year, and the inhabitants had freely eaten of unripe water melons and cucumbers.

It is also true that the *koumiss*, a species of drink made from fermented mare's milk, had failed, and still more the *knoût*, an analogous but better drink made from the milk of the sheep and the cow.

But already, in antecedent years, had all these anti-hygienic conditions been frequently presented, in the same degree, and in similar combinations, yet without the least appearance of epidemic Cholera.

Let us further add with respect to fruits, that subsequently to their absolute interdiction, and notwithstanding the rigid measures adopted by the public authorities to effect their total exclusion from the city, the disease increased with greater activity and counted a greater number of victims.

The Cholera having appeared then at Orenburg notwithstanding the salubrity of this city, it became necessary to seek elsewhere for its origin; the epidemic reason not being as yet presented to meditative minds, or rather this reason alone was not deemed satisfactory.

It is in this state of the question that the origin of the disease has been attributed to an importation imputed, by some, to the caravans arrived from Boukaria and Khiva, and by others, to the commercial relations established with the neighbouring hordes of Kirguis-Cossacks.

The Kirguis, a wandering and half-savage people, encamped in the immense *steppes*, beyond the Ural mountains, being in constant commercial intercourse with Turkestan, Boukaria, and Khiva, have long been in the habit of furnishing Orenburg with sheep, felt, camlets, &c. Now, when the Cholera appeared at Orenburg, we know that the epidemic was extending its ravages in Chorazan, in Asia and Persia.

Let us, however, examine both assertions, that is to say, the importation of the Cholera by caravans and by the Kirguis.

On the 26th of August, 1829, at nine in the morning, surgeon-ma-

jor Smirnorff detected the Cholera-Morbus in Andre Yvanoff, a soldier of the 8d battalion of the line then in garrison at Orenburg, who was carried to the military hospital at Orenburg, where he died at about the expiration of twelve hours from the commencement of the disease.

From the 26th of August to the 9th of September, no other person in Orenburg was attacked with the Cholera.

On the 9th of September, at 11 o'clock in the night, another soldier, of the same battalion of the line, likewise attacked with this malady, was brought to the military hospital. He died towards five o'clock in the evening of the following day.

The day after, September 10th, two other patients were sent to the hospital, one of whom died, the other was cured. In both these cases the disease had progressed with less rapidity than in the two preceding.

On the 11th, a soldier of the same battalion was attacked and carried to the hospital; then on the 14th, a soldier of the battalion of invalids; again, on the 16th, two other soldiers of the same battalion, and, finally, on the 17th, two non-commissioned officers.

During the whole of this time, and until the 18th of September, only two individuals among the citizens of Orenburg had been seized with the malady; both of whom died. One was an excise officer, the other a tradesman.

The commerce of Orenburg, a city altogether commercial, has for a long time been maintained in frequent, extensive, and important relations with Asia, India, and Persia: it is at least since 1813 that the city of Orenburg has been in the habit of admitting annually the caravans coming from Kiachta and Boukaria: now, the Cholera reigned epidemically in these countries during the month of August, 1817, and it was not until August, 1829, that it first made its appearance at Orenburg.

The caravans from Boukaria and Khiva arrived in July (the 20th at the latest) at Orenburg, were admitted into the Court for Strangers, after sanitary visits and inspection, but the Cholera was not manifested until the 26th of August.

Convoys making a part of these caravans, had entered about the same time into the fortresses of Orstia and Troitzka, yet the Cholera did not appear in these two fortresses.

The guards and camel-drivers, hired by these caravans in one place and in another throughout their route, have entirely escaped the disease.

It must also be noted that these Asiatic traders loaded and unloaded their camels during their journey; that whenever they arrived at an *aoula* or encampment of Kirguis, they made numerous exchanges of merchandise for provisions of every sort, which consequently rendered it necessary to unpack the bales in which they were contained: yet, notwithstanding these different operations, there has not been a single instance in which Cholera was communicated.

From the 26th of August, the day in which the first patient, the soldier Yvanoff, was attacked by the disease, and who died with it on the same day, until the 9th of September, there was not a single individual seized with the Cholera at Orenburg.

The Cholera suddenly makes its appearance among the poorer class of people, in individuals worn down by hard labour and debilitated by extreme want, It was not first observed among custom-house officers, in continual communication with the suspected Kirguis and in constant contact with the suspected articles of merchandize. It has not attacked the merchants who purchased camlets, felts, and furs ; it has respected easy or rich people who carried them. The traffic-market of Orenburg, situated at the distance of three *versts** from the city, on the right bank of the Ural, where, during the whole summer and one half of the autumn, the Russian and Asiatic merchants reside and exchange their merchandize with that of the Kirguis, it would seem ought to have been the first theatre on which the disease appeared ; yet, notwithstanding, it was in a lesser proportion and at a later period that these quarters were attacked.

The Cholera had existed a long time in the city of Orenburg, when it broke out in the badly constructed fauxbourgs which constitute the boundaries of it.

Now it was not until the 28th of September that information was received of the first appearance of the Cholera in the environs of Orenburg ; and, surprising circumstance! whilst the villages nearest to the city, having intimate relations and constant communication with it, were altogether exempt from the Cholera ; whilst the fortresses adjacent to Orenburg and situated in the line of the two principal roads which terminate at this place, preserved their habitual salubrity,—during this time, the Cholera exhibited its accustomed ravages in villages at some distance from Orenburg, and also in a fortress situated at more than a hundred versts from this city, which had maintained but very little communication with it.

The villages lying east from Orenburg, between the Ural mountains and the city, but beyond the latter, in the line of communication of Asia with Orenburg ; these villages, Nieginka and Kaminoe for instance, although built along the upper Ural and having free intercourse every hour, as well as every day, with the city, have not been invaded by the malady.

In the military hospital of Orenburg, the Cholera began on the 26th of August, and did not cease its reign until the 20th of November ; the number of persons attacked with the disease was two hundred and ninety-nine, of which number two hundred and twenty were cured and seventy-nine died: we have stated above that the garrison consisted of six thousand men.

In the city of Orenburg, the disease did not commence until the 15th of September ; and on the 20th of November there was not, either in the city, or its suburbs, a single patient with the Cholera. Of the entire population of the city and its fauxbourgs, which is estimated at seven thousand, there were eight hundred and one patients, out of which number six hundred and eighty were cured and one hundred and one died.

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*About two miles ; a *verst* being nearly two thirds of an English mile.—Tr.

Immediately after the city of Orenburg, the first two villages attacked by the epidemic were the burgh of Rassipnoe and the village of Bicoulovoy, placed at a great distance from one another, upon two diverging routes, having intermediate to them a great number of other towns and villages which were not attacked at all or not until a later period, and also having much less communication with one another than each of them had with certain other places until then remaining unmolested by the disease."

In making this long extract, from a work to which we are indebted for many of the foregoing facts, we do not propose in this place, to enter on the difficult question of the mode in which Epidemic Cholera extends itself. We presume however, that some discussion of the circumstances of its entrance into Europe will not be without interest to our readers. Let us now inquire whether, in its extension over that continent, it has observed the same laws as in Asia.

However, it must be stated, that the first appearance of Epidemic Cholera in Europe, was in reality six years before, at Astrachan, in the delta of the river Volga, not far from the Caspian sea. But what is remarkable, after prevailing for a time, in that city, it ceased without extending beyond its limits.

In 1830 about the 1st of July, it reappeared, and soon began to show itself to the East, the North, and the West. In the second week of October it commenced in Moscow, where it prevailed till January. In the ensuing spring 1831, it broke out in Archangel on the white sea, in lat. 65 deg. and on the 12th of June commenced in St. Petersburg; where it raged for a time, ceased, and then recurred. A month before, it had manifested itself in Riga, at the mouth of the Dwina, in the S. W. corner of Russia proper; and at Danzig, another town on the Baltic sea, in Prussia; having already affected most of the vast country, between that sea and the Caspian. Mean while, extending along the shores of the sea of Azof and the northern side of the Black sea, it ravaged the southern provinces of Russia; and overspreading Hungary and Poland, extended beyond them into Prussia and Austria, quite to Hamburg, on the Elbe. Dipping down the Dardanelles, it affected Constantinople, and recrossing into Asia minor, fell with violence upon Smyrna, in lat. 38 degs. below which it did not occur.

As yet, it had not extended west of the 10th deg. of east longitude; but in the autumn of the same year, 1831, in which it ravaged the countries lying south of the Baltic, it appeared in England. Its onset was at Sunderland, a coal town, at the mouth of the river Wear, in the north eastern part of the Kingdom. Well authenticated cases occurred in August; but no alarm was sounded, till the month of October. It prevailed till February, extending to the towns and villages on the Wear and Tyne, including New Castle, Gateshead and other places, in the great coal district;—and, extending into Scotland, raged with considerable mortality, in the villages and country, quite to Edinburg and Glasgow inclusive. In the month of March, it appeared in London, where, however, it affected comparatively, but a small number. About the same time, without invading the centre and west of England, including the great commercial and manufacturing towns of Liverpool, Birmingham and Manchester, it opened on ill-fated Ireland, and over ran, most of the Island ; being attended in many places with great mortality. In May it broke out in Paris, and raged for two or three weeks, with deadly violence. What may have been its spread, in that kingdom, is not at this time known with any certainty. Thus, the parts of Europe which remain unvisited, are Holland and Belgium to the north, and the states which border on the Mediterranean sea—Greece, Italy, Naples, Switzerland, the southern part of France, Spain and Portugal, to the south.

Having briefly sketched the progress of the Epidemic in Europe, let us inquire, for a moment, whether its character has undergone a change, on that continent. Many of the facts necessary to this inquiry, are still wanting in this country. From what we have seen, we would say :—

1. That the laws of its propagation, seem to be the same in Europe, as in Asia. It has, as in its native country, extended itself along navigable rivers, and highways; sought out maritime towns; fallen heavily upon the great armies, engaged in advancing and resisting the plans of despotism; passed by villages and districts of country, affecting places on both sides, and beyond them; sought out the poor, the terrified, the afflicted, the badly

lodged, clothed and fed ; the intemperate, the exposed, and the dwellers in damp and unventilated places. But it has, also, stricken many in the opposite of all these circumstances.

2. It has penetrated farther north in Europe than in Asia ; and, as yet, has spared, many southern countries, lying nearly in latitudes, which it has repeatedly ravaged in the latter.

3. It has prevailed more severely in the winter season, in the high latitudes of Europe, than in the mild climates of India and Persia.

4. In many instances, it has appeared to be communicated from man to man; while, as in Asia, the atmosphere of the sick has generally seemed to be harmless; and it has broken out in several places, where no suspicion of extraneous introduction could be raised.

5. Quarantines and military cordons, neglected, generally, in Asia, have been instituted and enforced in Europe, without resisting its progress.

6. The governments, and the medical men of Europe,—both contagionists and non-contagionists,—have satisfied themselves, that it cannot be propagated, by inanimate objects of any kind.

7. The character of the Epidemic in Europe, has varied a little in two respects from its Asiatic type : First, It has been much more commonly preceded by diarrhœa, or some kind of intestinal irritation; and secondly. much oftener followed, by a fever of the typhus form.

8. Its mortality, in proportion to the number attacked, has been greater in Europe than Asia. In the former it has sometimes been as high as one out of two, and frequently two out of five: while in Asia, the average mortality has not exceeded, one out of six or seven.

9. It is worthy of remark, that in London, a small number, proportionally, were affected, and the deaths exceedingly few, compared with many villages of the kingdom, allowing for the difference of population. In Paris, on the other hand, it atacked multitudes, ascended in many instances, into the higher ranks of society, and proved, extensively fatal; events well calculated to humble the pride of science; as that city is the great emporium of medical learning, the whole of which had

been put into requisition, and such deliberate preparation made, for the reception of the pestilence, as led many of its physicians to predict, that it would prove but a small calamity to the people of France!

10. The cause or causes, which have produced such striking differences, in its mortality in different towns, have not yet been discovered.

Leaving the Old world, we come to contemplate Epidemic Cholera in the New.

From the gazettes it appears, that on the 8th of June of the present year, a malignant cholera morbus suddenly broke out at Quebec, among the Canadian French, and the wretched emigrants, chiefly from Ireland, who had during the spring been thrown in thousands upon the banks of the St. Lawrence. It quickly spread over the city, and affected many of the natives, in comfortable circumstances. In a few days it was at its height, and before two weeks had sensibly declined, indeed nearly ceased. On the 11th or 12th, the same malady manifested itself in Montreal, 120 miles up the St. Lawrence, where it raged with great mortality, but on the 24th of June, was nearly extinct. Meantime it made its appearance in many of the villages surrounding these two cities; and affected the Canadian French, still more, it is said, than the emigrants, multitudes of whom had ascended the river as far as Montreal and even above.

The question has been started, whether this be any thing else than the ordinary endemic of the country, in an aggravated form? It is impossible, from the data, which have, as yet, reached Cincinnati, to resolve this question; but from the suddenness of the invasion and its short duration, the multitudes taken down, its great prevalence among the poor and exposed, its alarming mortality, and the concourse of symptoms, we are compelled, till other facts shall be made public, to regard it as an extension of the Asiatic Epidemic. The question, whether it will extend into the United States, from Canada, will probably be answered in the affirmative, before these pages see the light. For whether propagated by contagion or atmospheric

influence of any kind, its entrance into our country, is not likely to be prevented, unless the laws of its diffusion should be different in America from those of Europe and Asia. Moreover, we had last autumn, a wide spreading Influenza, so often the precurser of more violent Epidemics, and a visitant of Europe the year before the Cholera; and, at the present time, June 30, there is in this city, and no doubt, other parts of the United States, a great deal of diarrhœa, and many mild cases of endemic cholera morbus, both of which were harbingers of the Epidemic Cholera in England. The pestilence may not, however, overspread the United States during the present summer, for it has often lingered a year or more on the confines of a country without entering, and then made a sudden and mortal irruption.

A disease so wide spreading and fatal as Epidemic Cholera, must of course have a powerful and pervading remote cause, but what it is, has not yet been discovered. The ingenuity of the profession has suggested several, but strong objections lie against the whole. Let us review them.

1. Sol-Lunar Hypothesis.

Epidemic Cholera has been ascribed to the influence of sun and moon. But as the disease has been progressive through various latitudes and longitudes, and persons have been taken down at every hour, from the new, to the full moon, and from the latter to the former, the hypothesis of sol-lunar influence, would seem to be altogether visionary.

2. Cometary Influence.

It has been supposed to depend on the approach of a comet, which is presumed to exert an effect on the electricity of the earth or its atmosphere, unfavorable to human life. Such an influence, however, ought to bear some kind of astronomical relation to the great circles of the globe, and not to the courses of rivers, it should be simultaneous and universal, rather than local and meandering; moreover, the present Epidemic commenced at least fifteen years ago, and the comet now approaching our solar system, is not yet visible in the northern hemis-

phere, where the disease has chiefly prevailed;—facts that would seem to *disprove*, what is not sustained by any positive argument or phenomenon.

3. Geological Theory.

The malady has been attributed to exhalations from the bowels of the earth; and the occurrence of earthquakes in Persia, *since* it commenced, has been cited as evidence in support of this, which may be called the geological hypothesis. It has the dignity of having been cherished, if not first suggested, by Sydenham. It can scarcely be doubted that mineral fermentations, attended with the development of various gasses, do actually take place beneath the surface of the earth; and that they sometimes escape into the atmosphere. But the progress of Epidemic Cholera bears a relation to the condition of the surface of the earth, rather than the strata which lie beneath; and it is difficult to conceive of the occurrence of exhalations, in the locomotive manner in which the epidemic has spread. On the whole, it must be admitted, that this doctrine is a mere hypothesis unsustained by any positive facts.

4. Miasmatic Theory.

Malaria, or poisonous air, formed by the decomposition of dead vegetable and animal matters, acted on by heat and moisture, has with confidence been cited as the remote cause. In support of this theory, it has been alledged, and with truth, that the disease prevails most, in hot and humid situations, which are supposed to send forth miasmatic exhalations; in close, dirty, and unventilated cities; and at the season of the year when intermittent and remittent fevers, *said* to depend on malaria, are prevalent. It has, moreover, not unfrequently put on, after the first paroxysm, the type of one of them, or some other fever. Thus, the miasmatic theory is far more conformable to the ascertained facts, than either of the others, just mentioned, and deserves grave consideration. When we recollect, however, that in several instances it has prevailed in dry places and at great elevations, that it has continued, in some cases,

throughout the winter, and that it is, and always has been, absent from many places on the surface of the globe, where heat, moisture, and decomposable matter, all the requisites for the generation of malaria abound, we are unable to assent to the miasmatic hypothesis, although so plausibly supported.

5. Meteoratious Theory.

It has been held by many, to result from some change in the mode of union, or relative proportion of the gaseous, and etherial fluids, which constitute the atmosphere. To this supposed change, one of our able countrymen, Dr. Joseph Mather Smith, of the University of New York, has applied the term insensible *Meteoration.* He supposes, it to relate, chiefly, to the electric fluid; and, with many others, believes Epidemic Cholera to be the direct effect of some disturbance in the equilibrium of that fluid, or of electricity and magnetism combined. In the language of this school, cholera is an uncontagious, meteoratious epidemic, like influenza. Others have preferred the opinion, that the assumed meteoration involves some change in the gaseous constituents of the atmosphere, and is connected, in some manner, with an excess or deficiency of oxygen, azot, or carbonic acid. To make the theory, in any degree, adequate to the explanation of the phenomena, it is necessary to admit an influence, sufficient to begin and spread this meteoration progressively over the surface of the earth. The doctrine of ferments may be cited, in illustration of this supposed atmospheric change. A little leaven leaveneth the whole lump. A minute quantity of yeast, will start, in a large volume of fermentable liquid, an intestine movement, that will ultimately extend throughout the whole. Now may not a similar fermentative action be excited in the atmosphere, and extend successively over various places? Such a supposition would render the meteoratious hypothesis applicable to the geographical history of the Epidemic, and give to it at least a high degree of probability. It would account for the spread of the disease into diversified localities; for its occasional continuance through the winter; its progressive and sudden invasion, general prevalence in a

particular district, and its sudden disappearance, after a brief reign of fifteen or twenty days. But the evidence of this meteorations change, is wanting, or at least defective, and what is the ferment? Admitting the meteoration, we must still look further back for a cause to excite it. Such an agent may undoubtedly exist, but as yet the proofs of its reality are altogether conjectural.

6. Contagion.

Contagion has every where had its advocates. In Asia these are few and feeble. The natives, it is said, do not view the Epidemic as communicable from the sick to the well; and the majority of European physicians practising in that country, are opposed to the doctrine. The people of Europe, however, have dreaded it as contagious, the governments of Europe have met it as contagious, and the physicians of that continent have observed, experimented, disputed, wrangled, and written about its contagiousness, until they have split into several sects. A few believe it to be unconditionally and powerfully contagious, and capable of propagating itself without extraneous aid; a greater number hold, that it is contagious only in an impure or malarious atmosphere, from confined air, personal filth, or public sources of miasmata; others that a general meteoratious or atmospheric distemperature of some kind is a necessary co-operative agent; and others that is, under all circumstances, non-contagious. It would seem, that with the progres of the malady over Europe, the number of ultra contagionists has been constantly diminishing, and that of the non-contagionists increasing. This, to those who are at a distance from the theatre of observation, is a fact which is not without its value.

The naked question is, do the bodies of those who labor under Epidemic Cholera, secrete and throw out a poison, either liquid or ærial, which, inhaled or swallowed by a healthy person, will excite the *same* disease in him, and can he in the same manner, raise it in the system of a third? If so, the malady is contagious, and perpetuates itself by morbid secretion; otherwise it is not.

In support of the affirmative of this proposition, a great many facts are cited, going to show the communication of the disease from one person to another; the introduction of it into towns and villages by individuals affected with it; the immunity of families, small communities, and even cities, when they practised a rigid exclusion of all who were tainted; finally, the advocates of this theory dwell upon the advancement of the disease through fifty degrees of latitude, over a vast variety of soils, throughout all the seasons, and especially along high roads and navigable streams.

On the other hand, the non-contagionists refer to the acknowledged fact, that the medical and other attendants on the sick are but seldom attacked; that it frequently limits itself to a single member of a family; that it has not often *appeared* even, to spread from intercourse with the affected; that it has repeatedly shown itself in places, where it could not have been introduced by human agency; that it sometimes appears in all parts of a city, in a single night, and reaches thousands in a few days; that it has appeared simultaneously in the different parts of certain districts; that it has prevailed in one wing of an army without extending to the other; that a detachment of marching troops, laboring under the disease, has joined another encamped on a healthy spot, without communicating the malady; that it has broken out in ships long at sea, finally, that persons going from towns where it prevailed, have sickened in the country, and in villages, without infecting those around them.

To these positive facts, it may be added, first, that the measles, small pox, vaccine disease, itch, hydrophobia, and other maladies, which generally, or always, propagate themselves by the morbid secretions which they generate, are found to be operative on almost all persons, while, in many places, a very small number only are seized with cholera; secondly, that the same contagions are capable of raising in others the diseases of which they are respectively the products, independently of any predisposing or exciting causes; while the remote cause of Epidemic Cholera, whatever, it may be, is comparatively harmless, except in certain situations and under certain circumstances.

If then a contagion emanates from the bodies of cholera patients, it is much less active than that of small pox, can affect but a small number of those who live regularly, in comfortable circumstances; and is chiefly operative on those of enfeebled constitutions or bad habits, who live poorly, and are exposed, labor under apprehension of the disease, or breathe an atmosphere impure from other causes. Such a contagion *may* exist; but direct proofs are wanting, and we know of few analogies that could legitimately be brought to the support of the doctrine. A contagion which should require so great a variety of conditions to give it activity, would certainly not be very dreadful.

The subject of what has been termed contingent contagion properly falls into this place. The expression is not a correct one. A disease may be contingently communicable, but cannot be contingently contagious. A contagious effluvium, is either exhaled or not exhaled from the body of a person who is ill, according to the nature of the disease. In small pox, such an exhalation always occurs; in pleurisy, never. In mild cases of the former, the amount of exhalation may be so little, that under free ventilation, the disease would be much less communicable, than when the circumstances were different; but still it is *positively*, not *contingently* contagious. Let us apply this reasoning to Epidemic Cholera. In regard to contagiousness, it either belongs to the species which embraces small pox, or that which includes pleurisy. Suppose the former. If so, the Epidemic is *always* contagious, though the amount generated, may be so small, that unless the patient be kept in an unventilated place, where the contagious effluvia would accumulate, and those about him were strongly *predisposed*, by living in an atmosphere unhealthy from filth and defective ventilation, he could not communicate the disease to them. Now, that the Epidemic is contagious, even in this feeble and almost harmless degree, remains we think to be shown.

If the Epidemic Cholera be contagious, it is important to ascertain the greatest length of time that can elapse after an exposure, before the disease may show itself. Many contagionists

have, occasionally witnessed the disease in a few hours, after they supposed the poison had been inhaled; two or three days have been stated as a more common period, and fourteen has, perhaps arbitrarily, been set forth, as the ultimate term, beyond which the virus could not lurk in the system without exciting the disease.

In the opinion of contagionists, can the clothing of a physician or friend, who visits the sick, communicate the disease to others? They have, we believe, unanimously decided this question in the negative. The same decision, we have already stated, has been made in regard to goods and inanimate objects of every kind. Actual exposure, then, to the atmosphere of the sick, is indispensable; but such exposure, it is admitted by all, will affect a very small number only.

7. Animalcular Hypothesis.

The last hypothesis which we shall mention, is the *animalcular*. To understand this, which is not a new doctrine, some acquaintance with the natural history of insects is indispensably necessary.

1. It is well known, that there are in fluids, and on many solid bodies, both living and dead, a great variety of insects too small to be seen by the naked eye. They have been revealed by the microscope. Derham in his Physico-Theology, London, 1727, says of *animalcules:*

"Most stagnated waters are stocked with them; new pits and ponds; yea, holes and gutters on the tops of houses and steeples.

It is almost impossible by reason of their perpetual motion and changing places, to count the number of animalcules, in only a drop of the green scum upon water; but I guess I have sometimes seen not fewer than one hundred frisking about in a drop no bigger than a pin's head. But in such a drop of pepper water, a far greater number, these being much less than those."

Baker, in his work on the microscope,* observes:

"It is common in summer-time, for the water that stands in ditches to appear sometimes of a greenish, and sometimes of a reddish color, which, upon examination with the microscope, is found entirely owing to infinite millions of *animalcules* crowded together on the surface of it, and giving it such appearance.

* London, 1764.

The water that drains from dunghills, and looks of a deep brown color, is so thronged with *animalcules*, that it seems to be all alive, and must be diluted with water before they can be sufficiently separated to distinguish their various kinds."

Finally, he remarks:

"The waters every where abound with life, and are an endless subject of employment for the microscope: seas, rivers, ponds, ditches, and almost every puddle, can, by its assistance present us with living wonders never before discovered."

2. By an admissible analogy, we may infer, that the air, equally with the waters, is peopled with these minute beings. We are, indeed, accustomed to see flying insects in vast multitudes, that are visible to the naked eye, only in a strong light and under certain aspects; and it is quite obvious, that flying animalcules *may* reside in the atmosphere, undiscoverable by magnifying glasses, as such instruments are not adapted to observations on the air.

3. Baker, in the work just quoted, has recorded a number of observations, which go to confirm this conclusion. The following extract, although rather long, will perhaps be read with interest, especially by those who know that the author was a man of science, and a distinguished member of the Royal Society.

"The smallest living creatures yet known, are the animalcules in fluids; whereof many kinds have been discovered by the microscope, of such exceeding minuteness, that a million of them would not equal the bigness of a large grain of sand; and it is probable there may be numberless species of a size much less than these. It is also likely that there are as many, or even more kinds of these *invisibles*, (if I may use the term,) than of those whose size is discernable by the naked eye. Here, therefore, is abundance of scope for inquiry and admiration; since every drop of water, or other liquor, (excepting oil and spirits,) either does already, or, upon standing exposed a few days, will appear full of *living creatures*, of various sizes and forms. Some kinds of these *animalcules* seem to be really fish, and are natural inhabitants of the water all their lives; others live there but occasionally, in the manner of gnats, which, from eggs dropped by their parents in the water, become swimming animals; but after a while, shed their skins, appear in a form that bears no resemblance to what they were before, take wing and turn creatures of the air.

We may thus account how water, wherein *pepper*, *hay*, *oats*, *wheat*, or other *vegetable substances* are infused, will soon become full of life;

for those *minute* and *invisible little flies*, which are every where hovering in the air, and seeking places to deposite their eggs, when a fluid offers well stored with proper nourishment for their future offspring, may be supposed to resort to it in swarms, and lay their eggs there. These eggs being soon hatched, the infant brood swim about and live happily in the fluid; till, grown to their stated size, they in due time change their forms, employ their wings and fly away.

The truth of this I have often experienced; for after observing some kinds of *animalcules* in several fluids to be grown to a certain bigness, on a sudden, I have found them all gone away, and only a much smaller and consequently a younger race of the same kinds remaining; which, also, when grown to alike size, have soon after in the same manner been gone too. *Besides, if the infusion be covered, though with a muslin or fine lawn, I have constantly found that few animalcules have been produced therein; but upon taking off the cover, in a few days it will be full of life*; which seems to prove that the eggs, whence these *animalcules* come, must either be deposited by their own parents, as I above suppose, or be brought along with the air. And, indeed, both these ways may possibly be; for as the eggs of such minute creatures are lighter than air, millions of them may continually float therein, and, being wafted every where indifferently, may perish in places unsuitable to their nature, but hatch and thrive when they happen to be lodged in a proper *nidus* for them. Some people imagine that the eggs of these little creatures are lodged in the pepper, hay, or whatever else is put into the water; but, were it so, I cannot think a thin covering of lawn, which does not exclude the finer part of the air, would prevent their being hatched; and therefore must conclude it a mistake.

Though water that stands at rest, and exposed in the open air, will, after a few days, have some animalcules in it, they will be found in no degree, so numerous as when vegetable bodies have been steeped therein; for no creatures seem able to subsist on mere water only, and what little particles besides may accidentally happen in it can maintain no great number. But when, by infusion of the above mentioned substances, water is stored with their proper food, the microscope can show myriads of *living creatures* in every little drop."

It is not in warm weather only, that our ingenious philosopher found vegetable infusions to become impregnated with animalcules. The same happened in the 'midst of winter, if the water was not frozen,' but not so speedily.

4. The smallest flying insects which we observe by the naked eye, are gnats; these belong to the genus CULEX of the entomologists. The *musquito*, in some systems is referred to the same family. Let us dwell for a moment on the character of the *Culices*. They deposit their eggs in stagnant or eddy

water. A single gnat has been observed to discharge from 250 to 300;* these are hatched out, and the larvæ they produce swim for a time, and then acquiring wings, rise into the air. They, as well as the musquito, have an armed proboscis, by means of which they puncture the skin, and draw out the blood of the animals on which they subsist. The instinct of these minute insects, directs them, then, to wet places, for the purpose of depositing their eggs, and to man and animals, as affording them sustenance. The number of individuals belonging to a species is innumerable, and the generations rapidly succeed each other; they delight in a humid atmosphere, fly abroad chiefly in the evening, and can maintain themselves against a considerable breeze. Now, is it unreasonable to conjecture, that there are many of this tribe, invisible to the naked eye, that have the same instincts, habits, and modes of propagation with the visible species? And may they not deposite their eggs in vegetable infusions, such as were prepared and examined by Baker? It is a law of the animal kingdom, that the smaller the individuals of a species, the more numerous; we may conclude, then, that if there are invisible, ærial insects, the number of individuals may exceed all human computation.

5. Gnats and other small flying insects, whose bite is poisonous, abound both in hot and cold climates.

"One would at first imagine that regions where the polar winter extends its icy reign would not be much annoyed by insects; but however probable the supposition, it is the reverse of fact, for nowhere are gnats more numerous. These animals as well as the *tipulidæ*, seem endowed with the privilege of resisting any degree of cold, and of bearing any degree of heat. In Lapland their numbers are so prodigious as to be compared to a flight of snow when the flakes fall thickest, or to the dust of the earth. The natives cannot take a mouthful of food, or lie down to sleep in their cabins, unless they be fumigated almost to suffocation. In the air you cannot draw your breath without having your mouth and nostrils filled with them; and unguents of tar, fish-grease or cream, or nets steeped in fetid birch-oil, are scarcely sufficient to protect even the case-hardened cuticle of the Laplander from their bite. In certain districts of France, the accurate Reaumur informs us that he has seen people whose arms and legs have become quite monstrous from wounds inflicted by gnats; and in some cases in

*Kirby and Spence's Entomology.

such a state as to render it doubtful whether amputation would not be necessary. In the neighborhood of the Crimea, the Russian soldiers are obliged to sleep in sacks to defend themselves from the musquitos; and even this is not a sufficient security, for several of them die in consequence of mortification produced by the bites of these furious blood-suckers. This fact is related by Dr. Clarke, and to its probability his own painful experience enabled him to speak. He informs us that the bodies of himself and his companions, in spite of gloves, clothes, and handkerchiefs, were rendered one entire wound, and the consequent excessive irritation and swelling excited a considerable degree of fever. In a most sultry night, when not a breath of air was stirring, exhausted by fatigue, pain, and heat, he sought shelter in his carriage; and though almost suffocated, could not venture to open a window for fear of the musquitos. Swarms nevertheless found their way into his hiding place; and, in spite of the handkerchiefs with which he had bound up his head, filled his mouth, nostrils, and ears. In the midst of his torment he succeeded in lighting a lamp, which was extinguished in a moment by such a prodigious number of these insects, that their carcases actually filled the glass chimney, and formed a large conical heap over the burner. The noise they make in flying cannot be conceived by persons who have only heard gnats in England. It is to all that hear it a most fearful sound. Travellers and mariners who have visited warmer climates, give a similar account of the torments there inflicted by these little demons. One traveller in Africa complains that after a fifty miles' journey, they would not suffer him to rest, and that his face and hands appeared, from their bites, as if he was infected with the small-pox in its worst stage. In the East, at Batavia, Dr. Arnold, a most attentive and accurate observer, relates that their bite is the most venomous he ever felt, occasioning a most intolerable itching, which lasts several days. The sight or sound of a single one either prevented him from going to bed for a whole night, or obliged him to rise many times. The species which I have examined, is distinct from the common gnat, and appears to be nondescript.

From Humboldt also, we learn, that 'between the little harbor of Higuerote and the mouth of the Rio Unare the wretched inhabitants are accustomed to stretch themselves on the ground, and pass the night buried in the sand three or four inches deep, leaving out the head only, which they cover with a handkerchief.' This illustrious traveller has given an account in detail of these insect plagues, by which it appears that amongst them there are diurnal, crepuscular, and nocturnal species, or genera: *Musquitos* or *Simulia* flying in the day; the *Temporaneros*, probably a kind of *Culex*, flying during twilight; and the *Zancudos* or *Culices* in the night. So that there is no rest for the inhabitants from their torment day or night, except for a short interval between the retreat of one species and the attack of another. We learn from this author that the sting or bite of a *Simulium* is as bad as that of the *Stomoxys* before noticed.

It is not therefore incredible that Sapor, king of Persia, as is related, should have been compelled to raise the siege of Nisibis by a plague

of gnats, which, attacking his elephants and beasts of burden, so caused the route of his army, whatever we may think of the miracle to which it was attributed; nor that the inhabitants of various cities, as Mouffet has collected from different authors, should, by any extraordinary multiplication of this plague, have been compelled to desert them; or, that by their power to do mischief, like other conquerors who have been the torment of the human race, they should have attained to fame, and have given their name to Lays, towns, and even to considerable territories."*

Now may we not be permitted to conjecture, that species invisible to the naked eye, are also poisonous? The number of reptiles and insects, which secrete a venomous fluid, as a means of attack or defence, is really very great, and the disease produced by the venom of some of the former, as the rattlesnake, for example, bears a striking resemblance to Epidemic Cholera.

6. Certain *Culices*, as the musquito, extend themselves up and down rivers, from warmer to colder climates. Thus the insect just named, ascends the Mississippi and Ohio, as the hot weather comes on. May not microscopic species of the same family, follow the same law, and thus, at times, disseminate themselves into regions very remote from those to which they were indigenous?

7. But insects are dispersed over the earth in other modes. The winds may carry them when they do not make resistance, and even when they do, if the current be strong. Many insects, moreover, attach themselves peculiarly to man, especially when he lives in poverty and filth, or is enfeebled by disease; and may not this be the case with species that are invisible?

Let us apply these facts to the history of Epidemic Cholera.

We assume the existence of malaria, of mineral exhalations, of meteoration, of contagion; let us, in like manner, assume the existence of poisonous, invisible, ærial insects, of the same or similar habits with the gnat; let us assume still further, what will scarcely be denied, that these insects have instincts, which may direct their migrations, their search after food, and their choice of situations; and that they are liable to be carried by high winds into elevated and dry places, which they would not

* Kirby and Spence.

frequent from choice; finally, let us suppose that some cause has augmented indefinitely the number of individuals of some species, and we shall then have all the theory which is necessary to explain most of the facts connected with our Epidemic. This hypothesis would account for the greater prevalence of the disease in hot than cold countries, on the banks of rivers and near their mouths, over marshy grounds, about marine harbors, and in other humid situations, than under opposite circumstances, because there the enemy must multiply most. It also accounts for the connexion of the disease, with wet filth, and decomposing vegetable substances; as, in such matters, according to Reaumur and Baker, *animalcules* appear in countless multitudes. The doctrine likewise explains the simultaneous breaking out of the disease in various parts of the same country; its sudden invasion, short duration, and rapid decline. Its occasionally keeping on one side of a river, although the inhabitants of both perpetually cross and recross; its affecting one part of a town only; its extreme mortality in one wing of an army, while the other, encamped in a locality a little different, remained healthy; its appearance and disappearance from a body of marching troops, two or three times in succession, as they passed over different kinds of soil; its leaving many places untouched; its returning upon others, and ravaging them anew; its occasionally visiting dry, elevated, and salubrious situations, to which they might be carried by the winds or their own flight; and, perhaps, the fact of its not having crossed the arid deserts of Arabia into Africa. The doctrine still further explains, why exposure to a damp, and especially the evening air, has been found so productive of the disease—as the *animalculæ*, may, from analogy, be presumed to be then most abroad; why so many persons are attacked in the latter part of the night, particularly if exposed to the atmosphere of the evening; why a night breeze from the shore, in hot countries, blowing upon a vessel lying near, has sometimes been followed, in a few hours, by malignant cholera, in a great number of those exposed to it;* why persons residing in low, damp, filthy, and ill ventilated

* Johnson on Tropical Diseases.

places are more affected than others—for in such situations the insects would multiply rapidly, and no cause would operate to disperse them; why some persons are more liable to the disease than others—as we find the larger insects, more disposed to prey on some individuals than others; why persons enfeebled in constitution are oftenest its victims—as other insects and vermin are constantly prone to select such as their prey; why masses of forest have sometimes seemed to be a protection—for many insects delight to gather about green trees; why the disease does not entirely cease, during winter, though it is generally mitigated; why it spreads, as the French Academy of Medicine expresses it, capriciously, that is, according to animal instinct; why it seemed to be so often imported when, in fact, it is not contagious—the animalcules might swarm and multiply in the hold of a vessel, and escaping when it reached the destined port, and depositing their *ova* in the water, might speedily reinforce themselves, and originate the malady; or during the voyage, might issue from beneath the decks, and infect the crew; why individuals going into healthy situations, and sickening with the disease, do not communicate it; why those who attend on patients where it is epidemic, are not oftener affected than others; why caravans have often appeared to introduce the disease into places—as the *animalcules* might adhere to, and travel with them, as is often the case with larger insects; finally, why quarantines are not to be relied on, and military cordons have proved entirely useless—as the enemy on his own or on the wings of the wind, might pass on unseen and unobstructed. It is in favor of this hypothesis that it calls for all the precautions that experience has shown to be necessary; the avoidance of every thing that produces debility; the removal of nuisances; the drying up of wet places; free ventilation; and seclusion from the evening and night air; to which end, the experiments of Baker, on the influence of gauze covers, in excluding *animalcules* from vessels containing vegetable infusions, would suggest for our windows, at night, the screens which Lancisi informs us have been found efficacious in preventing intermittents in Italy.

As to the manner in which the supposed ærial *animalculæ* might act on, or enter the human body, it may be the same as that in which contagion, or malaria—admitting its existence—exerts itself. The *ova* of such insects may even be deposited and float in the air, to fall into water and be hatched out, as the seeds of many of the more imperfect plants, such as the *fungus*, the *lycoperdon*, and *mucor*, are disseminated; and these *ova*, as well as the perfect insects, may be inhaled or swallowed, and adhere to the mucous membrane, or perhaps be absorbed into the blood, or both; or, the *ova*, being deposited in the waters, may be swallowed, and the insects developed in our bodies.

Such is the application that may be made of the animalcular doctrine to the history of the Epidemic Cholera. The greatest objection to this doctrine, is, that the Epidemic sometimes prevails in winter, when insects are generally torpid. We must grant the apparent force of this objection; but it would come with a bad grace from the advocates of malaria, as the same cold ought to put an end to miasmatic exhalations of every kind; while the general *abatement* of the disease in winter, is a fact adverse to the geological hypothesis, to the sol-lunar, the cometary, and, perhaps, the meteoratious. Moreover, many insects are considerably active in cold weather, and, finally, it should be recollected, that Mr. Baker found vegetable infusions, when exposed to the air in winter, provided they were not incrusted with ice, to become impregnated with animalcules, showing that these microscopic beings are really abroad when the weather is cold. They may in fact be so small as to float permanently in the atmosphere in a torpid condition.

We am, however, far from avowing belief in a reality of this theory, but disposed to think that it explains more of the facts, than either of the other hypothesis. This, however, does not establish its truth. A theory to be true, must explain *all* the facts, and be the only one that can. But, although the animalcular be a mere hypothesis, it may be useful to science to assert its claims. There are too many members of the profession, and of society at large, who allow themselves to adopt and dogmati-

cally maintain some one of the other hypotheses which have been enumerated; and it may, possibly, excite doubts, and refresh the spirit of inquiry, for such philosophers to be shown, that a doctrine which they might have regarded as altogether fanciful, will, in reality, explain many points in the history of the Epidemic, quite as successfully as the systems, to which they yield an implicit assent.

Let us turn from the fruitless pursuits of a principal and universal remote cause of Epidemic Cholera, to the more profitable study of auxiliary causes. These, in theory, may be referred to two divisions; first, such as favor the generation or exalt the activity of the specific remote cause; and, secondly, such as predispose the body to its action, or quicken it into life. Every auxiliary cause must act in one of these two modes; but, after *having* established the classes, it may be difficult to assort the agents, which are to be distributed. Which of them, for example, should be referred to the first? None, we presume, but heat, moisture, decomposable matter, and confined air. These conditions are favorable to the generation of malaria and animalcular insects, and are calculated both to condense and disseminate contagion. Where they exist in the highest degree, the Epidemic, other circumstances being equal, has prevailed with the greatest mortality. It has, however, occurred in temperate weather, and in dry places, which were cleanly and well ventilated; and, therefore, it *has* a cause, distinct from these, or any, perhaps, that could be thus generated, the opinion of some writers to the contrary, notwithstanding. The circumstances which predispose the body to the action of that agent, whatever it may be, and are, therefore, referable to the second division, are exhaustion from age, chronic infirmities and innutricious diet; intemperance in the use of ardent spirits; long continued exertion; confined lodgings; the habitual breathing of an impure air; exposure to the damp and cool atmosphere of the night, after the intense heat of the day; irregular and excessive indulgence in food; apprehension of the disease, grief from the loss of friends; finally, constitutional temperament or native predisposition. The influence of these circumstances is so

great, that those who are under several, or even one of them, are in great danger of being seized when the disease prevails; but it may occur in persons who are exempt from the operation of the whole, except the last, and there *is*, therefore, a cause distinct from them all, and their agency is limited to the effect of predisposing the system to its action.

If such a cause does not exist, why is the world now trembling at the geographical progress of an Epidemic, as uniform in its symptoms as small pox, and as fatal in its termination as the plague? The existence of such a cause, must, we think, be admitted. Whether it will ever be discovered is extremely doubtful. Meanwhile, philanthropy and science should exert themselves in correcting, or removing all the conditions that co-operate with it in the work of human destruction, and thus disarm, if they cannot slay the monster.

TREATMENT.

As a suplement to this historical and ætiological view of Epidemic Cholera, we propose to say something on its treatment, in addition to the extended article in our last number. That article was, chiefly, made up of an account of the methods of cure pursued in Asia. We were, at that time, nearly ignorant of the results of European experience. Since it went to press, a variety of information down to April last, has reached us—a part in the form of separate narratives and treatises, but more, in the celebrated Medico–Chirurgical Review, of which we shall avail ourselves as far as our limits will permit.

No man living has, perhaps, given equal attention to the history of Epidemic Cholera, with the able and indefatigable Editor of that Review. His interesting and valuable work on the diseases of hot climates, presents us with some of the earliest and best accounts of the Epidemic, or rather with some of the best suggestions for its treatment, especially by bloodletting and calomel. But it is in the latter numbers of his review, that we meet with the most copious streams of information aggregated from every quarter. At a meeting of the *Westminster Medical Society*, November 20, 1831, the Editor, Dr. Johnson, submitted

in reference to this disease, a series of propositions, which we propose to extract from the number for January 1832.

PROPOSITIONS.

"I. That in *epidemic* cholera, as in most other epidemics, a poison or sedative principle, whether emanating from the earth, from animal or vegetable bodies on the earth, or engendered in the air, strikes a predisposed individual, and, after an uncertain period of incubation, produces a train of phenomena, forming the subject of subsequent propositions. In *sporadic* cholera, the general or diffusive cause is absent; but when the common exciting causes are strong, and the subject highly predisposed, severe or fatal cases will occur, where tbe *symptoms* cannot be distinguished from those of the epidemic cholera.

II The effects of the choleric poison exhibit a great analogy to those produced by the virulent contagion of typhus, and the concentrated miasmal exhalations that give rise to malignant fevers, remittent and unremittent; such as have been seen in Batavia and other highly malarious places.

III. This poison shows its effects according to the evidence of our senses, *first*, on the nervous system, as evinced bythe prostration of strength,—by the affection of the head,—by the arrest of the secretions (dependent on nervous energy,) and, in fact, by a depression of the whole of the sensorial functions, as well as those of the organic life.

IV. The *secondary* effects of the choleric poison are shown in the vascular system. The heart acts feebly,—the circulation recedes from the surface, and the blood accumulates in the vessels of the internal organs; decarbonization and calorification cease, or are greatly diminished; the temperature of the body falls to that of surrounding inanimate substances; paleness is changed to blueness; and the influence of the ganglionic system of nerves seems to be nearly suspended, if not annihilated.

V. It is at this period that nature appears to make violent, but too often unsuccessful efforts, to restore the broken balance of the circulation and to re-establish the secretions, by sickness and purging; the ejected fluids being exudations rather than secretions.

VI. If nature does not succeed by the above-mentioned efforts to restore circulation, secretion, and consequently oxygenation and calorification, these efforts themselves prove auxiliaries to the choleric poison in destroying life.

VII. We are not, in our present state of knowledge, certain whether the spasms be merely the effects of the poison on the nervous system, or an effort of nature to resist it; but they, like the sickness and purging, tend ultimately to exhaust the powers of life.

VIII. If nature, (by which I mean the constitution,)whether with or without aid, be able to resist the first or depressive shock of the poison, and institute a reaction in the system, that reaction, in a great majority of cases, becomes a fever, exhibiting a new train of phenomena, and demanding a different mode of treatment. If this view be correct it

would lead to the inference that the choleric symptoms constitute the first or cold stage of a choleric fever.

IX. If reaction, with restoration of circulation, secretion, and oxygenation, do not take place, the patient dies in a state of asphyxia, the intellectual powers often remaining but little impaired, till the last glimmer of the lamp of life is extinguished. This has been often witnessed in concentrated miasmal fevers, both within and without the tropics.

X. PATHOLOGY.—All the changes which present themselves in the dead body are, in my opinion, *effects*, not causes, of the disease; with the exception of the congestion of black blood in the internal organs, which is almost the only phenomenon observable when cholera terminates fatally in a few hours. The traces of inflammation in various organs after death, indicate the causes or effects of the reactive fever, rather than of the cholera which precedes that fever.

XI. TREATMENT.—As we have no means of expelling or neutralising the poison, we can only endeavour to counteract its effects, and to assist nature in her remedial movements.

XII. The primary or essential indication is to restore the equilibrium of the circulation. That equilibrium effected, a restoration of secretion, calorification, and oxygenation follows.

XIII. The balance of the circulation is to be restored partly by internal, partly by external means; but always by several means simultaneously employed at the very earliest period of the disease.

XIV. Venesection may appear a desperate remedy, but we have a desperate disease to combat. I proposed this measure many years before the epidemic broke out, and it has been adopted to a very considerable extent, both in Asia and Europe. I proposed, and would still propose, venesection with a two-fold view; first, to relieve the heart and internal organs from a portion of that deluge of black blood in which they may be said to be drowning;—secondly, to turn, as it were, the tide of the circulation from the centre to the surface of the body. This measure I would chiefly confine to the young, the robust, and the previously healthy, and in them contemporaneously with, or subsequently to, the measure which forms my next proposition.

XV. The first internal remedy which I propose, both in aid and in imitation of nature, is a stimulant emetic, as infusion of mustard seed, or what perhaps would be better, the sulphate of zinc. I propose this from a conviction founded on observation, that of all the means which nature or art can bring into operation, the act of *full vomiting* is the most powerful in driving the blood from the trunks to the capillaries—from the internal organs to the periphery of the body. It is also the most universal excitant of secretion in every glandular structure of the living machine. Nausea and retching are quite different in their effects from the operation of full vomiting. Nausea and retching depress the power of the heart and nervous system, and prevent the blood from flowing to the surface; full vomiting impels the circulation with such force into the superficial vessels, that it is extremely difficult to stop the flow of blood from the orifice of a vein during vomiting. I have seen the blood come from a vein under such circumstances, with

all the characters, or at least the appearance, of arterial blood. This proposition is well exemplified by sea-sickness, of which I have had painful personal experience. An unfortunate landsman bears a close resemblance, during the first storm at sea, to a man with cholera. He staggers about the deck, or clings to the railings of the lee-gangway, striving to keep down the rebellious heavings of his own stomach. But all wont do; up it comes; and during the first vomitings I have seen the blood gush from mouth, nose, and even the eyes of the sea-sick sufferer. From being actually blue with nausea, his face becomes red with vomiting. But the cause of the sickness still continuing, he ultimately becomes pale and exhausted; he is like a man who takes a fresh dose of tartar emetic, after each paroxysm of vomiting. The wonder is that he does not die; some *have* died. It is curious that Cœlius Aurelianus, who gives the best ancient account of cholera morbus, places sea-voyaging among the causes of that disease.

It is but justice to state that Mr. Boyle proposed and practised *full vomiting* in the epidemic cholera ten years ago; and I have the very best authority for affirming that this practice, when it was pursued on the Continent, was eminently beneficial.

XVI. As soon as vomiting has produced its salutary effect on the circulation, or has failed to produce that effect, after a fair trial, I would propose diffusible stimuli with calomel and opiates, but not in immoderate doses. Brandy and laudanum, as the most readily procured, and the least likely to be loathed, are perhaps the best. But the choice of stimulants must be left to the practitioner; and the danger of inducing subsequent inflammation should be carefully borne in mind. Calomel alone would probably be the best medicine after the emetic.

XVII. The remedies above-mentioned, in moderate but efficient doses, seem to impart vigour to the heart and nervous system, through the medium of the stomach, while they mitigate the spasms, and restrain the useless or injurious exudations of fluids from the intestinal canal, the mercury changing that exudation into secretion.

N. B. Would not the inhalation of oxygen gas be beneficial?

XVIII. The external remedies are three—heat, friction and counter-irritation. These three means should be employed, not only simultaneously with respect to each other, but contemporaneously with the internal remedies. They should also be so employed, that the patient may not be required to throw a single voluntary muscle into action. Every muscular movement, even that of sitting up in bed, is prejudicial, or absolutely dangerous, during the exhausting orgasm of cholera. An apparatus permitting the application of heat, friction, and counter-irritation, without the necessity for any muscular exertion on the part of the patient, will be shown to the Society.

Query—As the cramps and spasms are chiefly confined to the extremities, and as the exhausting pain of these cramps is in proportion to the contraction and swelling of the affected muscles, would not firm compression by a bandage mitigate the spasms? Patients in cholera often cry out for the most violent extension and pressure of the cramped muscles.

XIX. Prophylaxis.—Conceiving myself, as well as every member

of this Society, bound to abstain from all discussion of the question of contagion, I shall condense the subject of prevention into four words,—temperance, cleanliness, ventilation, and fearlessness:—in fine, the pursuance of all those means which tend to preserve general health, and the avoiding of all those causes which predispose to the common, or indigenous diseases of our own climate."

On the whole, the treatment of the cholera in Europe has not differed widely from that of Asia, but venesection and calomel have been less depended on in the former than the latter country.

Bloodletting.

Mr. Greenhow of New Castle, whose book is one of the best we have seen on the Epidemic as it appeared in the north of England, speaks of this remedy in the following terms:—

"I have hitherto said little on the subject of this powerful remedy—powerful when employed at the auspicious moment—powerless, when attempted to be used at a later or an earlier period. When we are fortunate enough to be called to a patient before the pulse fails, still more before the serous evacuations commence, when he is suffering from the symptoms which so frequently occur in the first stage—nausea or vomiting, purging of billious matter, vertigo, head-ache, probably injested conjunctivæ, pain in the abdomen or at the pit of the stomach, with a quick, sharp, or oppressed pulse, and probably occasional cramps in the legs—a full bleeding will be found of the greatest benefit, not only in relieving the existing symptoms, but in averting the impending horrors of the second stage of the disease; this effect may perhaps yet be produced, although the pulse have become feeble and still more oppressed, but not when imperceptible. In such cases it expands and increases in strength and freedom, as the blood flows. If, however, asphyxia, coldness, and blueness of the extremities have fairly established themselves, the attempt to obtain blood is vain; thickened and stagnant as it is in the vessels, it cannot be made to flow, and if a few ounces be squeezed from the orifices, it hangs from them in long strings, accumulating like stalactites, without producing any beneficial effects. On the contrary, it fatigues the patient, exposes him to the prejudicial influence of cold, and suspends for a time more efficient means of relief. I must, therefore, hold bleeding in these circumstances to be inadmissible, principally, because it cannot be accomplished; and the attempt injurious, since it directs attention from measures of less doubtful utility because they are really practicable."

It is a *desideratum*, to know by the symptoms, which cases will admit and which not admit of blood-letting. Laennec lays it down as a rule of practice in all diseases, that if the pulse should be weak, but the impulse of the heart strong, we may bleed, but if both are weak, venesection is prohibited. Perhaps this rule

might be applied to Cholera, and thus the stethoscope be made to guide us through the difficulty. In the absence of the means of making an *a priori* decision on this point, it will only remain to observe the effects of the flow of blood, and terminate it when the circulation becomes more feeble and limited, instead of expanding.

Tartar Emetic.

Dr. Reich, of Berlin, in a pamphlet on Cholera, appears as the advocate of tartar emetic.

"His plan of treatment was this. Dissolve ten grains of emetic tartar in seven ounces of water, and give half an ounce every two hours, continuing the medicine, even after the evacuations have ceased, till appetite and natural fœces are restored. The first effects are, more copious purging than vomiting; but these soon cease, *tolerance* of medicine being, in a short time, established. He allows the patient plenty of cold drink—prohibits all heat and frictions—gives no other internal remedy—and states that, by the above measure, he cured 119 out of 123 patients."*

Cathartics.

The Med. Chir. Rev. strongly recommends the following formula in the premonitory diarrhœa:

Rhubarb, half a drachm,
Ginger, five grains,
Brandy, one ounce,
Water, the same—mix.

When the bowels have been already well evacuated, this mixture may be infused and strained, and two ounces of water, with 20 grains of soda or magnesia added to it.

Dr. Dodd, of the same country, has seen croton oil beneficial in the stage of collapse. According to that gentleman, 'it abates the spasms and restores the secretions.'

Injections of warm water.

In our last number we asked the question, whether drinking large draughts of hot water might not be beneficial? A modification of this practice has been adopted in England. Mr. Greenhow, has thrown into the bowels, by a forcing syringe, three or four pints of water, *as hot as it could be borne*, rendered stimulating with brandy, camphorated spirit, or Castile soap,

*Medico-Chirurgical Review, April 1832.

and speaks in high terms of its efficacy. The water appeared to communicate its heat to the neighbouring organs. Mr. Fife pursued the same method, sometimes adding laudanum to the water, with a similar result. He observed that when the water was discharged, it was 'astonishingly reduced in temperature.' This practice seems to us to promise a great deal. When the discharges have been very great, would not an infusion of nut-gall act beneficially on the mucous membrane of the bowels?

Tobacco Injections.

An infusion of tobacco administered as an injection has been proposed by Mr. Baird, and employed by himself and some other gentlemen of New Castle, Eng. He has reported several cases, in which this medicine proved beneficial; and avers that he has not seen it do harm in any. He was led to its employment by the conviction, that the prostration of the circulation arose chiefly from a prolonged contraction, or systolic state of the ventricles of the heart, which he proposed to relax by the impress of tobacco.

"The first change,' says he, 'which takes place after the exhibition of the injection, is restoration of the circulation, as evinced by the increase of volume in the pulse, and restoration of the livid parts of the body to a more healthy hue. The cessation of cramps next ensues, and afterwards the suspension of vomiting and purging. Last of all, the re-establishment of the bilious and urinary secretions."*

The infusion should not be so strong as that directed in the books for strangulated hernia.

We shall leave the reader to form his own conclusions relative to this medicine. It certainly should not be ventured on, except in vigorous, masculine constitutions, and in the early stage of the disease. If used at all, it should perhaps be preferred when the spasms are violent.

Morphia.

We do not discover that the salts of morphia have as yet received a sufficient trial, to test their efficacy in comparison with opium. The following formula would perhaps prove useful.

* Mr. Greenhow.

R. Sulphate of morphia, two grains;
Sulphuric ether, two drachms;
Simple syrup, four ounces, Mix.
A table spoonful for a dose, in some water.

Lye of woodashes.

One of the best antacids in common cholera morbus, is a weak lye of fresh ashes and soot. It deserves a trial in Epidemic Cholera. It may be prepared in a few minutes, and the patient should frequently drink a wine glass full of it.

It is, probably, in the early period of the disease, that acidity prevails in the stomach and bowels, and antacids are called for. In more advanced stages, when the serous portions of the blood begin to exude into the bowels, the carbonate of soda of that fluid predominates, in the latter, when, of course, antacids are not required.

Liquid Ammonia.

In the report of the French Academicians we find the following:—

"M. Noel, in the midst of a pretty extensive epidemic, performed wonders by means of liquid ammonia, given several times a day in an aromatic infusion. M. Deville quickly dissipated the disturbances by the aid of a large dose of ether, administered immediately on the accession of the disease. Every where opium has been associated with diffusibles, with musk, with camphor, ether, or essence of mint; every where have been prescribed with success, tonics, bitters, and aromatics."

Subnitrate of Bismuth.

The same report says:—

"Quite recently, Doctor Leo has endeavoured to prove, from a great number of convincing facts, that the method most constantly efficacious against the Cholera, consists in the employment of sufficient doses of the sub-nitrate of Bismuth, one of the most active antispasmodics with which we are acquainted."

In protracted stages of collapse, it should be recollected, that the stimulants and antispasmodics must be frequently changed. The system soon loses its susceptibility to any one of them, but may still be excitable to another.

Sulphur Bath.

Would not the sulphur bath prove beneficial in this stage of

the disease, by relaxing the spasms, as well as communicating heat? Sulphur once had considerable reputation as an anti-spasmodic. If there was any foundation for this pretension in its favor, one might think well of trying it in Cholera. Taking a sulphur bath is generally followed by copious perspiration.

Cold Affusion.

This is a Persian remedy. It has been adopted with advantage in Europe. Dr. Ainsworth, one of the Sunderland practitioners, after speaking of the inefficiency of certain remedies, observes:

"It is quite evident, then, that another line of practice must be adopted, and this should be the use of cold affusion; a practice much in vogue in the East, and since introduced into the Cholera hospitals of the continent, with marked success.

'One of the physicians of the Cholera hospital at Berlin, in writing upon the subject, says: "In those living corpses which are struck with asphyxia, lying cold, and without any pulse, external or internal stimuli cease to be so; inasmuch as the debilitated asphyxiated frame cannot, in its turn, act upon them. No steam apparatus, however vaunted; no warm bathing; no friction; no excitement, is sufficient in these cases." And this is what I am sure every person who has seen the disease, will coincide in. Though produced from internally, outwards, and not externally acting inwards, *asphyxia pestilentia* bears a strong relation to death by frost, in which there is an icy coldness of the surface, a want of pulse, and great congestion of the central parts. In these cases, we use frictions of cold snow, &c. until a gradual warmth is restored; and it is on the same principle, that sudden cold affusions, are indicated in Cholera. So forcibly did this strike medical men in this country, as a neglected remedial measure, that when the *Berlin Cholera Gazette*, which contained the notice of its successful employment, was made known, every writer was anxious to show that he had himself previously advocated its adoption.

'The patient is placed in an empty and dry bathing vessel or tub, and several buckets of cold water are poured on him, while the regions of the stomach and back are subjected to a kind of shampooing, or friction; and this process must be repeated, if the urgency of the circumstances requires it. No physic is given, and cold water is allowed for beverage. If the pulse revives, the affusions are continued in a tepid bath, and the patient is put to bed, where perspiration is excited by gentle frictions with cold flannels. It must be kept carefully in mind, that cold affusions are only applicable to the second period of the disease, and not to the first; and it is not a universal remedy, but can only be used in particular cases. To secure the convalescence of the patient, it is only necessary that he should be carefully watched,

and all symptoms of returning heat and vitality, or recurrence of the usual secretions, be assisted by the exhibition of warm restoratives and gentle aperients, taking care to avoid local inflammation."

We are disposed to view this practice with great approbation. The water should be very cold, dashed on suddenly, and the application not continued very long. The *shock* imparted in this manner to the nervous system, could scarcely fail to be reviving. The subsequent hot applications, frictions and irritants, would have greater effect. The hot and cold bath might, indeed, be employed alternately. We should expect much from such a practice.

Injections into the Veins.

In the Med. Chir. Rev. there is an account of experiments by Drs. O'Shaughnessy and Clanny, on the state of the blood in Epidemic Cholera, from which it appears that the serum of the blood drains off, or at least, that its saline ingredients chiefly escape, through the mucous membrane of the alimentary tube. This discovery has suggested to Dr. Latta, of Eng. the injection into the veins, of a solution, designed to supply the place of these salts, essential to the constitution of the blood. We are indebted to the non-professional journals for the following account, which at the present crisis seems worthy of being transferred to our pages. The quotations marked are said to be from the pen of Dr. Latta himself, who says:—

"The first subject of experiment was an aged female, on whom all the usual remedies had been fully tried, without producing one good symptom; the disease, uninterrupted, holding steadily on its course. She had apparently reached the last moments of her earthly existence, and now nothing could injure her—indeed, so entirely was she reduced, that I feared I should be unable to get my apparatus ready ere she expired. Having inserted a tube into the basilic vein, cautiously—anxiously I watched the effects: ounce after ounce was injected, but no visible change was produced. Still persevering, I thought she began to breathe less laboriously—soon the sharpened features and sunken eye, and fallen jaw, pale and cold, bearing the manifest impress of death's signet, began to glow with returning animation; the pulse which had long ceased, returned to the wrist; at first small and quick, by degrees it became more and more distinct, fuller, slower, and firmer, and in the short space of half an hour, when six pints had been injected, she expressed in a firm voice that she was free from all

uneasiness, actually became jocular and fancied all she needed was a a little sleep. Her extremities were warm, and every feature bore the aspect of comfort and health. This being my first case I fancied my patient secure, and from my great need of a little repose, left her in charge of the hospital surgeon; but I had not been long gone, ere the vomiting and purging recurring, soon reduced her to her former state of debility. I was not apprised of the event, and she sunk in five and a half hours after I left her. As she had previously been of a sound constitution, I have no doubt that the case would have issued in complete reaction, had the remedy which already had produced such effect, been repeated.

Not having by me the number of the *Lancet* containing Dr. O'Shaughnessy's analysis, I adopted that of Dr. Marcet, only allowing a smaller proportion of saline ingredients. This I now find to be considerably less than natural, according to the more recent analysis I dissolved from two to three drachms of muriate of soda and two scruples of the subcarbonate of soda in six pints of water, and injected it at temperature 112 deg. Fah. If the temperature is so low as a hundred, it produces an extreme sense of cold, with rigors, and if it reaches 115 deg. it suddenly excites the heart, the countenance becomes flushed, and the patient complains of great weakness. At first there is but little felt by the patient, and symptoms continue unaltered, until the blood, mingled with the injected liquid, becomes warm and fluid; the improvement in the pulse and countenance is almost simultaneous, the cadaverous expression gradually gives place to appearances of returning animation, the horrid oppression at the præcordia goes off, the sunken turn-up eye, half covered by the palpebræ, becomes gradually fuller, till it sparkles with the brilliancy of health, the livid hue disappears, the warmth of body returns, and it regains its natural color,—words are no more uttered in whispers, the voice first acquires its true cholera tone, and ultimately its wonted energy, and the poor patient, who but a few minutes before was oppressed with sickness, vomiting, and burning thirst, is suddenly relieved from every distressing symptom; blood now drawn, exhibits on exposure to air its natural florid hue.

Such symptoms, so gratifying both to the sick and the physician, must never allow the latter to relax in his care—the utmost vigilance is still necessary. At first the change is so great that he may fancy all is accomplished, and leave his post for awhile. The diarrhœa occurring, he may find his patient, after the lapse of two or three hours, as low as ever. As soon as reaction by the first injection is produced, mild warm stimulants, such as weak gin-toddy mixed with some astringent, should be freely and assiduously administered. An attempt should be made to fill the colon with some astringent fluid. That such is requisite, is evident from the watery diarrhœa returning with violence, and if not restrained, death will ultimately make sure of his victim; therefore, so soon as the pulse falls, and the features again shrink, the venous injection must be repeated, taking care that the fluid in use retains its proper temperature. The injection should

be carried on very slowly, unless the patient is much exhausted, when it may be used more rapidly at first, until a little excitement is produced, after which it should not exceed two or three ounces per minute, and now is the time for the exhibition of astringents by the mouth, which will be retained, for in general the sickness entirely leaves during the operation.

Such remedies must be persisted in, and repeated as symptoms demand, or until reaction is permanently established. I have witnessed no violent symptoms accompanying the rapid injection of the fluid, but I have thought that the hasty repletion of the system was followed by great increase of the evacuations, and consequently a more sudden depression of the powers of life. The quantity to be injected depends upon the effect produced, and the repetition on the demands of the system, which generally vary according to the violence of the diarrhœa; the greater the degree of collapse, the greater will be the quantity needed, though not uniformly, for a very slight loss produces much depression in some systems; hence there is often great collapse without much vomiting, purging, or cutaneous discharge.

Although in every case, even the most desperate, the cholera symptoms were removed, some of the cases failed, which I attributed to one or other of the following causes; either the quantity injected was too small, or its effects were rendered abortive by extensive organic disease, or its application was too late.

I have already given an instance where deficiency in quantity was the cause of failure, which I will now contrast with one in which it was used freely. A female aged 50, very destitute, but previously in good health, was on the 15th instant, at four A. M. seized with cholera in its most violent form, and by half past nine was reduced to a most hopeless state. The pulse was quite gone, even in the axilla, and strength so much exhausted that I had resolved not to try the effects of the injection, conceiving the poor woman's case to be hopeless, and that the failure of the experiment might afford the prejudiced and illiberal an opportunity to stigmatise the practice; however, I at length thought I would give her a chance, and in the presence of Drs. Lewins and Cragie, and Messrs. Sibson and Peterson, I injected one hundred and twenty ounces, when like the effects of magic, instead of the palid aspect of one whom death had sealed as his own, the vital tide was restored: but diarrhœa recurred, and in three hours again she sunk, One hundred and twenty ounces more were injected again with the same good effect. In this case three hundred and twenty ounces were so used in 12 hours, when reaction was completely re-established; and in 48 hours she smoked her pipe free from distemper. She was then, for better accommodation, carried to the hospital, where probably from contagion, slight typhoid symptoms were produced. She is now, however, convalescent."

The Lancet contains the following summary of experiments, but we strongly recommend to the perusal of our medical readers the whole of the communications of Drs. Latta, Lewins and Cragie, which will be found in the above mentioned periodical. The editor of the Lancet, after giving the correspondence says—

"From the conjoint testimony of the highly respectable individuals who have conducted the various cases, it appears certain that of fifteen hopeless and abandoned cases, five were rescued from apparently certain death, by the treatment adopted, while of those which proved fatal, all but one had been complicated with such extensive organic disease, that no method of medication could do more than postpone a little the fatal event.—That reprieve the injection seems to have procured. In short according to the evidence before us, the method has only failed in one case in which it has been fairly tried—that is, where no organic disease had pre-existed, and where enough of life was left to sanction the least anticipation of success.,,

Treatment of the first stage, in Paris.

But little relative to the treatment of Cholera in Paris has yet reached this country. The newspapers furnish us with the following, translated from a French gazette. As the recommendation seems, *prima facie*, to be judicious, we shall transcribe it entire. The author, it is stated, is one of the physicians of the *Hotel Dieu*. The recommendations, it will be observed, are for the first or premonitory stage.

"Notwithstanding the repugnance I feel to draw public attention to my own professional career, I cannot resist the desire I have to make known the invariable success of a preservative method which is no less simple than it is easy to put in execution. The imperious call of humanity and the general inquietude impose this on me as a duty. I dare therefore hope that my intention will not be misunderstood.

Cholera, amongst persons attended to at their own houses, has always been marked by precursory phenomena, which may be considered its first stage. The serious symptoms have always been preceded either by a slight pain in the stomach or by dull pains in the intestines, with looseness of the bowels, very often even by looseness of the bowels, without any pain whatever.

Sometimes these trifling symptoms, which hardly excite attention, are accompanied by an oppressive sensation, of which the sick state the seat to be in the pit of the stomach, (epigastric region.) Headache and at times vertigo have also been observed, also a numbness and twitching in the extremities, and a tendency to chilliness in some parts of the body.

At this stage the disorder is always curable, and the success of the following mode of treatment has never been doubtful. If then one or more of these symptoms are perceptible, the following course ought to be immediately followed:

1. Keep your bed constantly during four hours at least, after having added to it one or two additional coverings.
2. Apply immediately to the epigastric region 20 or 40 leeches according to the severity of the case.
3. Keep on the belly emollient cataplasms, always warm.

4. Drink copiously of a slight infusion of linden or mallows, cammomile, or balm, warm.

5. Observe a rigorous diet.

If by the employ of these means, an abundant perspiration is produced and lasts for some days, the dangerous stages of the disease are prevented, provided recourse has been had to these means from its commencement. It must not be lost sight of, that when an epidemic reigns, all indispositions remain subject to the influence which produced them, and may degenerate into the serious stages.

I think also that a good effect will be produced by persons in the enjoyment of health, undergoing this prophylactic regimen. It cannot be in any case injurious, though it may be unnecessary. I will guarantee that by this simple method, so easily followed, the scourge may be neutralized which is desolating the capital and throwing alarm into our provinces. This assertion is made on the strength of my own experience and on the success of a mode of treatment which has never in any one instance failed." BALLY.

Treatment of the Broussaists.

We have been favored by a friend, who has just received it, with a pamphlet composed of two clinical lectures on the Epidemic, delivered in Paris, by Dr. Broussais. We note in them nothing worthy of attention, but the treatment. The distinguished author informs us, that he shall, for the sake of perspicuity, divide the methods of cure which have been pursued in the French metropolis in the following manner: "The *Ancient treatment;* or treatment of the sporadic cholera—*Treatment after the manner of Brown,* (stimulating)——*Mitigated treatment,* or eclectic or vaccillating treatment—finally, *Physiological treatment,* such as we employ here."

After briefly considering and condemning each of the three former, our learned author proceeds:—

"We come now to the *physiological treatment,* which we employ. I wish to describe, and if possible, justify it. We made, at first, some experiments with hot drinks and stimulants, moved, as we were, by the coldness of the patients: but as these means did not succeed, we abandoned them, and have not recurred to them. I watched the patients carefully; I gave them, not cammomile, for I dared not go so far, but mallows, and similar things. They said to me, 'I beg you to give me something cold; I am tortured by the hot drinks; I have a terrible burning in the throat, and I beg you to cool it in some way.' Their countenance brightened in saying this, but they afterwards fell into a still greater dejection. I concluded, from examining the bodies, and from the confession also of the patients, that stimulants were of no use. I then administered cold drinks; the patients drank freely,

but the evacuations redoubled in consequence. I recollected that ice had been employed to advantage in Germany; but I only had a vague and unsatisfactory idea of the manner in which it had been used. It occurred to me to diminish the drinks and to give them ice. When the patients had copious evacuations both ways, I caused ice to be given them to eat, with the injunction to swallow it. They took the ice with delight: the tongue was cold, the pulse extinct, and the body chilled. When the tongue is observed to become red, the skin to resume its color, and the blackness to disappear, the ice may be discontinued and the drinks given; but while the physician is endeavoring to restore the moisture of the mouth and the interior of the body, the gastrite is developed, reaction is going on, the nature of the inflammation is changed, and consists in a rapid congestion towards the digestive canal. The vomitings and stools continue, and the pulse is accelerated; from being slight and hard, it becomes fuller and softer, the brown color of the skin passes gradually away, and one is surprised the next day, to see the patient with the signs of commencing inflammation of the stomach and bowels. In the mean time, when he is troubled with thirst, you may give him some drinks, which you may be sure he will absorb. The danger is of filling the intestinal canal at the moment it is choaked up. When the asphyxia and blackness have disappeared, and the patient has recovered his strength, you conduct him slowly without stimulus, waiting till he has become slightly cold, and till the tongue, which had become a pale red, but not more pale than when it first grew cold, has recovered its ordinary color. This is the substance of the treatment for the interior."

To the exterior, hot applications may be made, especially to the lower extremities. The breast should be left uncovered. Frictions should be prohibited. Leeches to the epigastrium are strongly recommended: bloodletting from the arm, except at the commencement of the disease, is forbidden. Diffusible stimulants of every kind—even Siedlitz water, he thinks pernicious. Occasionally, however, he gives five or ten drops of laudanum; or, when the spasms are violent, forty, but never more. He allows no kind of warm drinks. Blisters and mustard poultices, or leeches may be applied to prevent congestion of the brain.

At the beginning of the Epidemic he lost one patient out of six—towards the close, one out of thirty or forty. This difference is common to all the modes of cure which have been employed.

We give this brief abstract of the treatment of the 'physiological school,' without having room for comments, and disposed to let every reader estimate it for himself. D.

MISCELLANEOUS INTELLIGENCE.

ANALECTIC, ANALYTICAL, AND ORIGINAL.

I. ANALECTIC.

1. *Uterine Irritation.—The Morbid Conditions of the General System and of Particular Organs which result from the Continuance of Uterine Irritation.* By Dr. Addison, Guy's Hospital, London.—These of course, vary very much both in kind and degree, but chiefly in degree, according to differences in particular constitutions, and according to the susceptibility of individual organs.

The first complaint usually made by a female suffering from this irritation, is, of feeling *nervous*, probably with a disposition to be low-spirited; but if, in a well-marked case of the kind, you proceed to feel the pulse, and especially if it be your first visit, the chance is that you will perceive a distinct tremor of the hand, and remarkable acceleration and sharpness of the pulse, evidently arising from mental agitation—and a degree of mental agitation so great, in a naturally susceptible female, that if you attempt to soothe or encourage her, she will begin to sob, her lips quiver, and she bursts into a flood of tears. Even after she has sufficiently recovered her self-command, she experiences considerable difficulty in describing her feelings and sensations, and often appears to despair of satisfactorily communicating to you the nature of her ailment. She tells you, that, without any assignable cause, she gradually declined in health and spirits; that she has lost her wonted alacrity, has become indolent, and is easily fatigued by comparatively slight exertion; that she is readily flurried; that her heart often beats, flutters, or palpitates; that the impressions made upon her mind are altogether disproportionate to the causes producing them; that she is very prone to weep, and occasionally experiences sudden and transitory feelings of alarm and dread, especially during the night, without being able satisfactorily to account for them; in short, that both body and mind are in a morbidly sensitive condition, whilst general distress is strikingly depicted in her pale or dejected countenance. If you proceed in your inquiries to ascertain the state of the uterus, you are perhaps informed that she is regular; but if interrogated more narrowly, it will almost uniformly be found, that she suffers pain either before or during the flow, in the back or loins, and that in the intervals, she is troubled with leucorrhœal discharge. To these inquiries, she gives a reluctant reply; will often, perhaps from delicacy, conceal truth, or, if she acknowledge it, will probably add, "Oh, that is of no consequence; that is not my

complaint; I have long been accustomed to that, and it does no harm;" and then winds up the case with telling you that she has taken a load of tonic medicines without benefit. If you ask her whether such questions were ever put to her before, you are generally answered in the negative. Such a case as this, with slight modifications, is of common occurrence, yet it most frequently happens, that, with the general disorder, we have decided derangement of some internal organ or organs; and of these, the organs of digestion appear to be almost uniformly the first to participate; indeed, the derangement of the digestive organs, to a greater or less extent, is so commonly associated with the general affection I have described, that one cannot but conclude that the general affection is most materially influenced, if not in part produced by it. It is sufficient, however, for our purpose to know, that the exalted susceptibility of the general system and this deranged condition of the first passages, are very commonly co-existent, however, they may stand in the relation of cause and effect.

The first appreciable disturbance of the stomach is most frequently a tendency to *flatulency*, which flatulency is productive of different effects in different individuals, although, in all, the stomach itself appears to be in a morbidly irritable condition, so as greatly to modify or aggravate the consequences that would otherwise arise from the presence of such flatulency. The patient experiences uneasiness at the scrobiculus cordis; she complains of a sense of load or distension after meals, or, if the stomach be uncharged with food, of prickings and anomolous pains in the organ, all of which symptoms are pretty uniformly relieved for a time by the expulsion of flatus from the stomach. In other cases, the irritation produced by the flatus about the cardiac orifice, excites a sympathetic affection in the throat, a sort of globus hystericus, which is variously described by patients, some calling it spasm, whilst others compare it to a mechanical obstruction, and indeed, one lady somewhat fancifully compared it to a bullock in her throat. It is a sensation, however, which will often last, in a greater or less degree, for days, or even weeks, with little intermission.

At other times the patient suffers from repeated vomiting, or is perhaps, seized suddenly, but only occasionally, with vomiting, preceded, accompanied, or followed by an irregularly inverted action, chiefly of the œsophagus, and attended with an ascent of flatus, so as, in some instances, to threaten suffocation.

Such are the ordinary affections of the stomach met with in the disorder to which I have alluded; affections, however, varying both in kind and degree in different individuals; affections, too, in which the whole alimentary canal appears more or less to participate, the patient being very commonly troubled with rumblings, distension and anomalous transitory twitchings in the bowels, symptoms undoubtedly depending upon the flatus and other contents irritating these morbidly sensitive organs. In more rare cases there appears to be a sort of inverted action of a greater or less portion of the alimentary canal; an inverted action commencing in some part of the bowels; an inverted

action accompanied by a rumbling noise in these organs; an inverted action extending to the stomach, passing up the œsophagus to the pharynx, where it produces a most distressing sense of suffocation, and lastly communicating with and involving in one universal disturbance the brain and entire nervous system. This mysterious communication, so closely allied to the aura epileptica, is in all probability somewhat of the same nature, and may, perhaps, result from this same irritation in the alimentary canal being conveyed through the pneumo-gastric nerve to the brain; for when this takes place, the breathing is usually affected at the same time in a remarkable manner; —the whole assemblage of symptoms, the aberration of mind and bodily contortions constituting, when taken collectively, what in common language is understood by a hysteric paroxysm. There are, however, divers modifications met with—the patient being sometimes seized with violent and involuntary fits of laughter or crying, during the paroxysm, at other times she will lie in a perfectly motionless and insensible state, but with a natural pulse, for hours together, or she shall suffer from a more or less perfect paroxysm without its being preceded by any globulus whatever.

Hitherto, then, we have traced the effects of uterine irritation, as they appear in the form of a general morbid sensibility and mobility of body and mind, with flatulency and irritability of the stomach and bowels; which symptoms alone, but in different degrees, may continue to harass such patients for months, or even years, without either a well developed hysterical paroxysm or any other inconvenience deserving particular notice. But it remains to be observed, that the exalted state of the nervous system is not, in a considerable proportion of cases, evinced solely by morbid susceptibility and excessive or irregular action, but, moreover, by *morbid sensation*, affecting different parts or organs of the body, and this too, varying from the slightest uneasiness to the most exquisite torture.

Now, it is to these painful affections that I am anxious to direct your earnest and special attention; because, in the first place, it is to relieve these that you will most frequently be called upon to render your assistance, and because, in the next place, these painful affections are perpetually misunderstood and mistaken, to the serious detriment of the patient. I repeat, then, I am anxious, most anxious, to impress upon your minds the nature of these secondary painful affections, their most frequent seat, and the various sources of fallacy by which you may be betrayed into error.

Of these painful affections, the most serious, or at least the most prominent, and certainly by far the most interesting, are those which attack the abdominal viscera, as these are repeatedly mistaken for inflammation, and treated accordingly. I shall not stop to inquire why those viscera, supplied by the ganglionic system in general, or why the abdominal viscera in particular, should be more liable to suffer such painful affections than other parts of the body supplied by the ordinary nerves of sensation and voluntary motion; suffice it to say that such is the fact.

Of the painful affections of the abdominal viscera, the most frequent are,

1st. A pain seated under the left mamma, or under the margin of the ribs of the same side.

2d. A pain under the margin of the ribs of the right side.

3d. Pain in the course of the descending colon.

4th. Pain in the course of the ascending colon, especially towards the right hypochondrium.

5. Pain affecting the abdomen generally.

6th. Pain in the region of the stomach.

And lastly, pain in the region of the kidneys, sometimes extending down the course of the uterus to the bladder.

Such are the painful affections usually met with, attacking the abdominal viscera; affections, too, which, in point of frequency of occurrence, observe the order in which I have enumerated them. You will have noticed that I am reserved in referring these pains to any particular organ, contenting myself with the *fact* that the pain is felt in a particular *situation*. The truth is, considerable difficulty presents itself in ascertaining positively what particular organ is affected, as the natural functions of the part or organ do not, in such cases, appear to be necessarily disordered, or at least to such an extent as to indicate with certainty that it is the seat of the pain complained of by the patient; neither can we have the usual aid of *post-mortem* examinations, as few die of such complaints whilst, if the patient be cut off by another disease, no organic lesion is discoverable to satisfy our inquiries. Occasionally, however, this question may be decided during life, as we shall see presently.

With respect to the *pain under the mamma, or under the margin of the ribs of the left side*, this is out of all proportion of most frequent occurrence, and will often last for weeks, or even months together, with but little intermission. This pain is very circumscribed; it is not necessarily or constantly increased by a deep inspiration or by external pressure, although this is occasionally observed; it is seldom attended with cough; it is not materially affected either by a charged or by an empty state of the stomach, but varies in its intensity, and now and then goes off altogether for a few minutes, hours, or even days, or the pain shall subside, and be succeeded by a mere uneasiness or sense of fulness in the part. This pain, as I have said, is of extremely frequent occurrence, and is very often associated with palpitation of the heart, or, what is much more usual, with unnatural pulsation of the organ, if I may be allowed the expression; *i. e.*, the patient is conscious of the heart's action, or she feels as if its impulse were communicated to a part so sensitive as to excite distinct sensation, which, you know, is not the case in a state of health. With respect to the precise source of the pain, I confess myself at a loss to speak with confidence or certainty, but am upon the whole inclined to assign it, when complained of under the left mamma, to the cardiac orifice of the stomach; or at least in one case in which it had prevailed for a considerable period, and in a very aggravated degree, I was led

to this conclusion. The young woman, to whose case I allude, died suddenly in a fit, and I examined the colon, spleen, heart, and stomach, with the minutest attention, when the only indication of irritation I could detect was a ring of very delicate vessels, or rather a blush of redness, surrounding the cardiac orifice of the stomach, such as might be supposed to be the result of any continued irritation or spasmodic action. Whatever may be its precise seat, it is repeatedly but erroneously, supposed to be purely of an inflammatory nature, and consequently is mistaken for and treated as pleuritis or splenitis.

The second painful affection to be noticed is that *seated close to the margin of the ribs on the right side.* This pain, although occasionally circumscribed almost to a point, usually extends from the scrobiculus cordis along the margin of the ribs, nearly to the loin of the side affected; it is neither considerably nor uniformly increased by a full inspiration, yet this is occasionally observed. External pressure, however, aggravates the pain, and sometimes in a very remarkable degree, whilst, in some instances there is such tenderness, that the patient shrinks from the slightest touch. The pain now and then shoots through to the back or between the shoulder-blades, but very rarely to the top of the right shoulder. This pain will occasionally remain, with slight remissions, for weeks or even months; at other times, it subsides altogether, and is succeeded, like the pain under the left breast, by a sense of fulness or tension of the part. As to the actual seat of this pain, I again confess myself incompetent to decide. I have sometimes supposed it to be in the *colon*, as it may now and then be traced from the margin of the ribs into the right iliac region; in other instances, I have supposed it to be seated in the *duodenum*, from its being occasionally attended with sickness, from its being aggravated during the operation of mercurial purgatives, and from its being in some rare cases attended with a remarkable sallowness or icteritious aspect of the countenance, and indeed with almost complete jaundice.

Here again, then, I must leave you in doubt, merely remarking, that it is not inflammatory, although repeatedly mistaken for hepatitis, and treated as such.

The next painful affection to be noticed is *that seated in the course of the descending colon.* This is not unfrequently associated with the pain under the left mamma, but is also observed to exist alone, extending from below the ribs to the *sigmoid flexure of the colon.* This, like the others described, is variable in its degree, and although more or less permanent, sometimes remits for hours, days, or even weeks together, and again returns. It is, however, more decidedly and obviously affected by flatulence, than the pains in the other situations mentioned; thereby more clearly pointing out the seat of the malady. The movement of the flatus is occasionally attended with a gurgling or rumbling noise, and a simultaneous aggravation of the local pain in the part. This is now and then mistaken for colitis, or for some organic lesion of the organ.

Fourthly, *Pain in the course of the ascending colon.* I have had occasion to observe, that the pain already described as situated behind the

margin of the ribs on the right side, sometimes extends down the course of the colon as far as the iliac region; it not unfrequently happens, however, that the pain is felt exclusively in the situation of the ascending colon, and like that on the opposite side, varies in degree at different times, or for a period disappears altogether. This pain too, after a time, is attended with considerable tenderness, so that the least pressure creates inconvenience.

Fifthly, *Pain affecting the abdomen generally.* This is by no means of rare occurrence, and in some instances so closely resembles general peritonitis as to be mistaken for, and treated as that complaint. Indeed, I know of no disease more puzzling than this, and it was not, I confess, till I had witnessed several such cases, and attended more minutely to the history and progress of the disorder, that I became convinced of its true nature. It may be called a general *neuralgia* of the abdomen. It is sometimes attended with a tympanitic, and at other times with a flaccid state of the bowels, the former being by far the most distressing. The pain is complained of over the whole of the belly, and the slightest touch, in many instances, cannot be borne, such is the extreme sensibility and tenderness of the parts.

If you watch the case attentively, you will, in general, soon detect some incongruity in the symptoms, to excite doubt and suspicion; but yet, so close is the resemblance in some cases, as almost to set positive diagnosis at defiance. A case of this kind lately occurred to me, where I was in so much doubt, that, to err on the right side, I treated it as peritonitis, although the history of the patient, and the condition of the uterus, told against it: I soon became convinced that I had been wrong, as I shall presently explain to you. It may be observed, too, that this general pain of the belly, like peritonitis, frequently occasions but little distress, unless pressure be applied, and like peritonitis also, it suffers an aggravation at intervals, an aggravation apparently in both cases depending upon the spasmodic action or griping in the bowels.

The *sixth painful affection* is that attacking the *stomach* in particular. This pain is for the most part strongly marked, and the more intense the disorder, the more positive is the evidence of its being really seated in the organ mentioned. Thus it will sometimes come on suddenly, occasioning the most excruciating agony; the patient screams from the violence of her sufferings, her countenance is expressive of the greatest distress, and she leans forward or bends the body in order to diminish the pressure of the abdominal parietes; or, she says that the pain is drawing her double. This, in some cases, will last with little mitigation for several minutes, or even hours, the patient, the whole of the time making loud complaints, and declaring that she must die if not speedily relieved. This pain will probably remit, and be succeeded by another much less severe, though more permanent; both the intense and more moderate pain being much increased by pressure made upon the epigastrium.

Lastly.—Such patients occasionally experience a sudden and severe attack of pain in the region of the kidneys, to which region it may be

exclusively confined, till it disappear altogether, or it shall extend from thence down the course of the ureters to the bladder, or the bladder alone shall be affected with pain; in either of the latter cases the patient generally experiences more or less dysuria.

Having pointed out the ordinary local affections arising from or connected with uterine irritation, I need only add, that you will often in the same individual meet with more than one of them existing at the same time; or, what is more usual, you will have them alternating with each other; whilst you will also observe the greatest variety in the relative severity of the local and general disorders mentioned; the general derangement prevailing occasionally in a very high degree with but little local pain, and *vice versa.*

Treatment of Uterine Irritation.—In the treatment of this disease, the *indications* are, 1st. To correct the morbid condition of the the uterus. 2. To remove or mitigate the violence of troublesome symptoms in any individual case; and 3d. To restore tone and vigor to the general constitution.

In thus laying down the indications of cure, you will perceive that I have ventured to reverse, in some measure, the ordinary modo of procedure. I repeat to you, that the condition of the uterus, to the continuance of which I ascribe the various disorders enumerated in this lecture, has in most instances been altogether overlooked, or at least, if observed, it has only been in these cases which have had some of the characteristic symptoms present, in a strongly marked degree, such as excessive or very painful menstruation, or profuse leucorrhœal discharge; and even then the condition of the uterus has been usually looked upon as a mere effect or consequence of the nervous or hysterical state of the entire frame, or in other words, it has been considered as merely participating in a universally morbid sensibility. Hence, the primary indication has commonly been to restore strength to the general system, regardless of the local disorder, although the ill success of the treatment founded thereon, has at all times been frankly acknowledged; so much so indeed, as almost to have placed the disorders in question amongst the *approbria medicinæ.* Having been led however, to take a different view of the subject, I am necessarily induced to make the correction of the state of the uterus the first, or at least the principal indication, although of course the second indication, and that of allaying troublesome symptoms, must often go hand in hand with, or in aggravated cases, even take precedence of it. What then are the means best calculated to remove the morbid condition of the uterus, the irritable state of the organ? In the cases in which the uterine disorder has attracted attention, it has been recommended to bleed generally, to take blood by cupping from the loins, or by leeches from the region of the pubes, or from the pudendum; to purge, to give anodynes, to employ the warm bath, and to keep the patient in a recumbent position, even for months at a time. Of this kind are the remedies recommended in an excellent work recently published by a distinguished member of our profession—I mean Dr. Gooch. That gentleman treats of the com-

plaint as it is attended with actual tenderness of the os uteri to the touch, when an examination is made *per vaginam.* He enumerates the remedies I have mentioned, but with these expressions of extreme distrust which mark the man of candor and truth, and with that modesty which, when united to extensive experience, commands the assent of every reader. Now, that all these remedies may be occasionally serviceable, or even necessary, I am not presumptuous enough or inclined to deny: depletion, general or local, in the plethoric, and anodynes and laxatives in most cases; yet, speaking from experience, this object, this grand object is secured with much greater certainty, and much more speedily by applications made directly to the uterus itself, and parts adjacent. The applications to which I allude, are *cold astringent washes*, injected *per vaginam* by means of a proper syringe. The ordinary womb syringe answers the purpose exceedingly well, but one of any convenient shape may be used, provided it be sufficiently large to contain from four to six or eight ounces of fluid. The injection should be introduced with such a degree of force as shall secure its application to the upper part of the vagina, and to the os uteri; and the operation should be repeated two, three, or four times a day, according to the circumstances of the individual case.

Either the mineral or vegetable astringents should be used; the former, however, I prefer, as they do not stain the patient's linen, and consequently are not so much objected to. With respect to the precautions to be observed in the employment of these injections, very few are required beyond what common sense would dictate, should the injection occasion smarting, which is by no means unfrequently the case at first, it may be diluted with water, or water alone may be used till the original tenderness subsides, which for the most part it will soon do. It will also be prudent to instruct the patient to relinquish it a little before the expected period of menstruation, and to resume it as soon as that period is over. These are almost the only precautions I have ever deemed it necessary to observe. Although in very irritable habits and especially when the stomach is liable to be effected with pain and spasm, it may be as well to direct the wash to be used tepid at first, gradually diminishing the warmth till it is brought to the ordinary temperature of the patient's apartment, which will pretty uniformly be borne exceedingly well after a time, except perhaps during a few of the coldest months in winter. The wash I most frequently employ is the ***Liquor Aluminis Compositus***, of the London Pharmacopœia; that is, two drachms of *alum*, and two of *sulphate of zinc*, to a pint of water. This practice must be persevered in for a length of time, proportionate to the obstinacy of the case, and the effect it produces. Indeed, I myself recommend females never to relinquish it, but to employ it from time to time, as long as they continue to menstruate, to prevent the recurrence of the disorder, and its unhappy consequences. I have said that the patient should desist from the use of the injection, a little before and during the menstrual period; but she ought also to be specially cautioned against using any violent exertion, or undergoing

any unusual fatigue at that time, as nothing so completely thwarts your purpose as imprudence committed whilst the irritable uterus is performing its functions.

When the uterine irritation is characterized by frequent and excessive flow of the menses, I have directed the patient to remain quiet in or on the bed, and to desist from the wash during each recurrence; not having ventured to carry the practice to the extent of attempting to restrain even such excessive discharge by local astringents. But when there is decidedly painful menstruation, or pain felt in the *womb, loins, or thighs,* before the appearance, although there be no leucorrhœal discharge whatever in the interval, I nevertheless apply the cold wash to such subjects, precisely in the same manner as if the leucorrhœal discharge were present, on the principal that this leucorrhœal discharge is itself a mere symptom or effect of the state of the uterus and neighboring parts, which I am anxious to remove. Such is the *local* treatment that experience and observation have led me to adopt, and which, after a long trial, I venture, with some confidence, to recommend to you. It is just possible, that circumstances not noticed by me may occasionally occur to interfere with or forbid the practice; but I speak of generalities, and not of universal principles—universal principles are unknown in our profession.

The second indication—*to allay or remove troublesome symptoms*—must, of course, be variously fulfilled, according to the circumstances of the particular case, but the remedies employed for the purpose will necessarily co-operate with the local treatment, to afford relief to the patient; unless, indeed the severity and character of the troublesome symptoms be such as to render the *immediate* application of the wash either doubtful or hazardous—as *e. g.* when the stomach is the seat of mere spasm, or the bladder or abdomen generally acutely painful, in which cases the second indication must take precedence of the first. Should the symptoms merely consist of the susceptible state of body and mind before described, or should this be accompanied by that modification of derangement of the digestive organs characterized by flatulency and irritability of the stomach and bowels, the general treatment need be very simple. I say nothing of *bloodletting,* as the propriety or impropriety of this must be apparent from the state of the circulation, always keeping in mind that such subjects bear bleeding badly, especially in large quantity, and that mere *frequency* even with *sharpness* of the pulse, is, in the highest degree, fallacious: a full, hard pulse, with considerable heat of skin, and more or less throbbing or pain in the head, will point out the expediency of a moderate bleeding. *Purgatives,* or rather *Laxatives,* ought never to be neglected, but much caution and judgment are required in their proper selection and application. The bowels, it is true, are generally costive, but it must be recollected that they are as uniformly in a weak and irritable state; hence those purgatives should be selected which give the least pain, and have the least tendency still further to weaken their tone. Watery saline purga-

tives are ill suited to the majority of such cases; they often perform their office imperfectly, and although they may not produce much pain, which they often do in such subjects, they nevertheless tend, by frequent use, further to impair the tone of the bowels, and to increase the disposition to flatulency. Except, therefore, that the commencement in plethoric subjects, or where the disorder exists in connexion with menorrhagia, the saline purgatives are not commendable. *Castor oil*, when it agrees with the patient's stomach, will be found more generally serviceable, perhaps, than any other. In many cases, the warm and resinous purgatives, though at all times more irritating, answer exceedingly well, emptying the bowels of their fæculent contents, and expelling flatus without leaving any increased tendency to flatulency afterwards, as is the case with the watery saline purges. A little *Compound Extract of Colocynth*, or equal parts of this and *Extract of Rhubarb* with a little *Extract of Hyoscyamus* to obviate griping; or the above extracts may be given with a little *Blue pill*, should a mercurial laxative be indicated by the appearance of the secretions. Calomel very often gripes severely, whether alone or combined; yet such is the variety of constitutions met with, that the compound extract of Colocynth with Calomel, often proves the most effectual and not the most painful purge. One or other, then, of these laxatives may be necessary once or twice a week.

In the case that I am now treating of, that is, where there is no abdominal pain, the medicine that I have found to afford the greatest relief is unquestionably the *Ammonia*, given either in common mint or camphor Julep, alone or with a few grains of *Magnesia;* about ten or fifteen minims of the *Liquor Ammoniæ Subcarbonatis*, with from eight to ten or fifteen grains of *Subcarbonate of Magnesia* two or three times a day. If it create pain in the stomach, or a disagreeable sense of heat there, these effects may sometimes be obviated by adding about half a drachm of Tincture of Hyoscyamus, a drachm or so of the Tincture of Hops, to each dose. This ammoniacal mixture seems, by its stimulus, to expel flatus, and thereby afford relief to many of the uneasy and unhappy sensations, and to raise the spirits of the patient. I have often given the Ammonia along with the Mistura Myrrhæ of Guy's Hospital, an ounce or a dose of which contains, I believe, about twenty grains of Myrrh, and is made with the Decoction of Liquorice root.

But suppose that, with more or less of the general symptoms, we have pain under the left mamma, or in any other of the situations pointed out, what modification of treatment ought we then to adopt?

The pain under the left mamma is of such frequent occurrence, that it becomes a matter of the very first practical importance to bear it carefully in mind when called upon to treat the disorders of young females. There is no local pain more frequently mistaken, and there is, perhaps, no local disorder so maltreated as this. Over and over again have I known patients blooded, cupped, blistered, and anointed with acrid ointments, for months in succession, not only

without relief, but with the most serious injury to their general health, whilst the uterine irritation has been altogether overlooked. Indeed, in thus declaring and denouncing such a mistake and such bad practice, I candidly confess that I am only declaring and denouncing "*quæque ipse miserrima vidi, et quorum pars magna fui.*" In truth, it was the frequent occurrence of this obstinate and intractable pain that first led me to a close and minute investigation of the subject of uterine irritation, having, like others, repeatedly blooded, cupped, and blistered in vain in such cases. Since, however, I have been guided in the treatment by the principles I have ventured to lay before you, my success has been much more certain and decided; and when the treatment founded thereon has not fully answered my expectation, it has at least been attended with the negative advantage of inflicting no unnecessary injury on the patient's general health.

In pointing out its non-inflammatory nature, do not imagine that I contend for the impropriety of bleeding or cupping or blistering in every instance. On the contrary, in plethoric subjects, one or two general or local bleedings may occasionally be of service; but merely, I believe, as such practice might be expected to afford relief in an ordinary colic, or any other similar painful affection. Depletion, however, is very far from being, in general, necessary, and probably will, in a majority of cases, be positively hurtful, teazing and exhausting the patient without adequate or permanent benefit. I have known Cupping, Leeches, a Blister, or an Opiate of Belladonna plaister, afford relief; but they all often fail, and will generally do so, or at least be merely followed by a temporary respite, unless the condition of the uterus and other circumstances I have pointed out, be attended to. Hot fomentations to the part will sometimes afford relief, but are attended with the same uncertainty as the other local remedies mentioned. Under the use of the injection, however, and the ammonial mixture with Tincture of Hyoscyamus, or three, four, or five grains of the Extract of Conium, in the form of pill, alone or with a grain or so of blue pill, according to the state of the secretions, the pain will generally yield, although the patient, as might be expected, will for a longer or shorter period be liable to a recurrence, until the original irritation, and its effects upon the abdominal viscera, shall have been overcome by a steady perseverence in the use of appropriate remedies. In some instances the ammonia cannot be borne, when the plain Camphor, or Mint julep, may be substituted, with half a drachm or so of the Tincture of Hyoscyamus, or four or five grains of the Extract of Conium, may be given in the form of pill twice or thrice a day. In other cases again, you may try six or eight drops of Batley's Liquor Opii Sedativus at bed time, unless it offend the stomach or the head. Should it constipate the bowels, proper laxatives should be had recourse to, in order to obviate such an effect; I prefer, myself, the Conium, or Hyosciamus; unless, however, it happen thus to disagree with the patient, the ammonia will answer best, guarded of course by the anodynes.

In those cases in which the pain shifts its seat from time to time, I

limit my *external* remedies generally, to hot anodyne fomentations; such as the decoction of Poppy-heads, or what often answers very well, the hot infusion of Chamomile Flowers, the flowers themselves being inclosed in folds of flannel, the more effectually to retain the warmth. I may also here observe again, that this tendency to shift its seat, together with the unsteadiness in the degree of the pain, form the most important diagnostic indications; whilst in most instances, we shall find, on inquiry, that the patient had suffered more or less from the complaint for some time before she applied for advice. Attention to these circumstances will materially assist us in our diagnosis, not only in these, but in the other painful or neuralgic affections attacking the abdominal viscera.

When the pain is situated in the *right hypochondrium*, or under the margin of the ribs of the right side, it is, as I have before said, repeatedly mistaken for, and treated as, hepatitis, and many are the times that I have known poor delicate women blooded, cupped, blistered, and salivated on this supposition, till they have been brought almost to the very brink of the grave. It is to be distinguished by the symptoms and circumstances already pointed out, and when ascertained, is to be treated upon precisely similar principles to those so minutely detailed. In these cases, patients sometimes tell us that our medicines, especially mercurial and resinous purgatives greatly aggravate the pain of the part during their operation. Cupping, Leeching, and blistering, will each occasionally, but only occasionally, afford relief; whilst, generally speaking, I would say that in this form of the complaint hot anodyne fomentations, assiduously applied, are more decidedly beneficial than in the former case, but in other respects the same means may be pursued. In some cases, four or five grains of Dover's powder, twice a day, will afford relief; in other instances, the more powerful combination of calomel and opium has been tried with effect. The calomel, however, ought to be given with great reserve, and never, if possible, to such an extent as to effect the system; in short, in all cases, the less violent measures we employ the better.

When the pain seizes the track of the colon on either side, the same treatment will apply, as it will also when the stomach becomes the seat of the pain; unless, indeed, severe spasm accompany it, when more active measures must be had recourse to, as a full dose of Liquor Opii Sedativus, or even a full dose of *Laudanum* and *Sulphuric Æther*, as I shall presently show.

I have said that the pain occasionally attacks the whole of the belly, exactly simulating acute peritonitis. This may be attended either with a flaccid or tympanitic state of the intestines, the latter proving by far the most painful of the two, the slightest touch causing the patient to cry out.

This generally diffused pain is not unfrequently associated with that modification of uterine irritation marked by excessive menstruation, both in point of quantity and frequency. But in such cases, whether with or without menorrhagia, it will require all your tact and

discernment, and what is more, it will require all your philosophy and forbearance, to abstain from copious depletion under an apprehension that it may be peritonitis. The history of the case will generally raise a doubt, and will often bring conviction; but if a doubt do really exist, it will always be prudent to err or the right side, and treat it as inflammation.

When *unaccompanied* by excessive menstruation, the same general rules of treatment are to be observed as have already been detailed; moderate bleeding if much plethora and headache, with a full pulse, prevail; and the free use of laxatives and fomentations. In both forms of the complaint, to relieve the pain in this situation, I hold the Liquor Opii Sedativus to be by far the most efficient remedy, as well as attended with the least inconvenience to the patient. With due attention to the bowels, therefore, six, eight, or ten drops may be given, every night, or every night and morning, according to the urgency of the pain.

When attended with excessive menstruation, there very usually prevails a plethoric condition of such irritable subjects, so that a moderate bleeding will commonly form a very good mode of commencing our practice: or if there be much forcing or bearing down, the patient may be cupped from the loins. In all cases of this kind, too, the patient, during the flow, and for a short time before the expected recurrence, should be strictly enjoined to remain in the horizontal posture; to be kept cool, and live upon low and bland diet. Nothing so certainly, or so greatly aggravates cases of menorrhagia, even when without obdominal neuralgia, as the ill-founded and ill-judged practice of giving tonics and stimulants on the erroneous supposition that such excessive discharges are the result of weakness. Repeatedly have I known the most serious mischief result from the practice here pointed out; patients having been given Bark, Port Wine, and cold Porter, merely because they complained of great debility, and because such complaints of debility have tallied with the preconceived notion of the practitioner, that the disease had its origin in weakness. You must be careful to distinguish a *weak and relaxed*, from a merely *irritable*, or a *delicate* and *irritable* habit. It is the latter in which you most frequently meet with the menorrhagia, of which I now speak. The excessive discharge is intimately connected with such irritability of the system at large, and of the uterus *in* particular; tonics and stimulants only tend, therefore, to produce excitement; to augment the action going on in the irritable uterus, and thereby to increase the sufferings and exhaust the strength of the patient. As far as the discharge is concerned, therefore, your object is to allay the vascular excitement by omderate depletion and purging, and to allay irritation by anodynes and rest. A free action on the bowels exerts so powerful an influence over excessive uterine discharge, that I am often induced to administer divided doses, either of the Magnesia or Salts mixture, or of the Salts dissolved in the Compound Infusion of Roses; endeavoring to obviate the increase of the neuralgic pain of the belly, which is liable, when it prevails, to be

aggravated by the Salts, by giving at the same time about five grains of Extract of Conium or extract of Hyosciamus, three times a day instead of the Liquor Opii Sedativus. In general, however, other laxatives may be given occasionally, to maintain a free discharge from the bowels, and to counteract the effect of opiates, should we determine upon a trial of them; for this purpose Castor oil, or Calomel and Rhubarb may be given; or the object may be, to a certain extent, accomplished by the use of glysters. If in spite of our depletion, laxatives, and rest, the flood still continues to prevail, without neuralgia of the abdomen, I generally direct the patient to apply cold vinegar and water, by means of a sponge, to the lower belly, two or three times a day; employing at the same time anodynes, or anodyne glysters, in order to allay the irritability of the womb itself.

If you have flooding alone, then, without neuralgia of the belly, you will bleed generally or locally, according to the state of the system at the time; keep up a free action on the bowels; keep your patient cool, and on low diet, and administer anodynes, either by the mouth or by glyster, with or without cold sponging, according to the severity of the case. Should flooding prevail along with the neuralgia of the belly, precisely the same remedies, with the exception perhaps of the cold sponging, will be required; whilst, if the neuralgia exist alone, the case becoming much more simple, must be treated on common principles; i. e. general bleeding, according to the degree of excitement of the heart and arteries; perhaps leeches to the belly: hot fomentations, laxatives and anodynes, either given by the mouth, such as Liquor Opii Sedativus, Conium, or Hyoscyamus; or in the form of glyster, as thirty or forty minims of Laudanum, with a little thin starch. Even in flooding cases I never give the lead, as I never fail by more gentle means to subdue the disorder, and I have known the lead induce severe colic.

I need only observe further, that if you should feel disposed to try the Oleum Terebinthinæ, I should consider it best suited to the general neuralgic state of the belly, without flooding or excessive menstruation in any form. From two drachms to half an ounce may be given with three or four drachms of castor oil. I am, however, averse to it myself, from its liability to offend the stomach and be rejected, but more especially from its tendency to act with violence on the kidneys. Such are the means which I have found most frequently of service in alleviating the more prominent and distressing symptoms attendant upon uterine irritation; means, I confess, often insufficient for the purpose, unless long persevered in, and this too in conjunction with the local treatment already mentioned. Many other questions and expedients will undoubtedly suggest themselves in particular cases, as Camphor, Musk, the Warm bath, and such like; or should the secondary local pains described not be considerable, the *fetid gums* especially *Asafœtida*, will often afford some, though tardy relief. Indeed these fetid gums have attained a higher character as *antihysterics*. bnt appear to me chiefly, if not exclusively, adapted to relieve some of the symptoms more particularly connected with the condition of the

bowels;—they expel flatus, raise the spirits, and moreover appear to restore tone to the alimentary canal, provided the original source of the evil be attended to at the same time. In the less painful forms therefore of the disorder, these fetid gums are worth a trial, and will often afford considerable relief to the feelings of the patient.

Much of what has been said, merges in the *third indication;* viz. to restore strength and vigor to the general habit. Of the best means of accomplishing this I need say very little, beyond remarking, that the *early* use of *tonics* has been extensively adopted, and has consequently been given a fair trial, whilst almost all are agreed to the very unsatisfactory results, in a large majority of cases; the cause of which you will now be able, in some degree, to appreciate; I mean, of course, inattention to the local irritation, from which I suppose the whole mischief to proceed. In the highly irritable and susceptible state of the body at large, and of the alimentary canal in particular, the more stimulating or irritating tonics cannot be borne, creating sickness, pain or uneasiness at the stomach, loss of appetite, headache, and divers unhappy sensations not easily defined by the patient. Chalybeates not only offend in this way, but are extremely apt to excite the uterus, so as to produce excessive menstruation, if it did not previously exist, or to aggravate it, if it have already prevailed. Exceptions do undoubtedly occur, but the objections to them stated are founded on personal experience. The *Sulphate of Zinc*, however, may sometimes be given early, with advantage, provided it do not offend the stomach. A grain to begin with, may be given night and morning, alone, or with a few grains of Extract of Conium, or of Hyoscyamus, or with a little of the Pil. Galban. Comp.; or it may be given along with two or three grains of the *Extract of Gentian* or *Extract of Bark;* or these latter may be given without the Zinc. Any of these may be tried and persevered in, till the local disorder, and the most prominent of the general symptoms shall have been subdued to a certain extent, when less reserve may be observed as to the nature of the tonics we employ; the chief of them are *Bark, Bitters, Chalybeates*, the *Cold Bath, and Country air.—Boston Med. Journal.*

2. *M. Delpech on Varicocele.**—The subject of varicocele has been studied, with some attention in this country, especially by Sir Astley Cooper, who has communicated much useful information on its causes, nature, and treatment, in his splendid work on the diseases of the Testis, Yet still our remedial measures are imperfect, and though we may palliate, we can seldom cure. Variocele is frequently productive of much inconvenience to the patient. M. Delpech, for instance, asserts that he has known military officers obliged to abandon their profession in consequence. Varicocele also tends to occasion wasting of the testis, partly, we suppose, from the pressure exercised upon the organ and its nerves, but principally from the imperfect circulation which it must create in the spermatic vascular system. We

* Memorial des Hopitaux du Midi. No. 24.

need scarcely allude to the diagnostic marks of the disease, but we may be permitted to mention its more frequent occurrence on the left side, its subsidence under steady pressure, whilst the patient is in the recumbent posture, and the return of the tumor when the patient rises, although sufficient pressure is made on the abdominal ring to prevent the egress of a hernia.

With respect to the atrophy of the testicle, M. Delpech remarks that it frequently exists to some extent, when the variocele is not severe, and when careful examination is necessary to detect it. On reducing the variocele in such cases by steady pressure, the testicle itself seems to disappear also, leaving little but its membranes and vessels be hind, a circumstance that, on superficial examination, would hardly be discovered. What is remarkable is this, that when the disease had been relieved by the obliteration of the varicose veins, the size of the testis became gradually restored, and with the size the functions. The pain felt in cases of varicocele is not in the testicle itself, but in the nerves of the spermatic cord. M. Delpech relates five cases in order to display his method of treatment, and to elucidate the history of the malady. We shall briefly mention some of them.

Case. 1.—*Varicocele—Operation—Purulent Deposites in the Liver.*—A young officer of infantry was affected with variocele of the left side, and suffered so much pain and inconvenience, that he expected to be under the necessity of abandoning his profession. He had formerly suffered from intermittent fever, his complexion was sallow, his form spare. Under these circumstances he applied to M. Delpech, who performed the operation. The incision was smaller than in the former case, and the piece of amadou larger and stronger, in order that the constriction of the ligature might be slighter. On the second day the ligature was cut, and removed with the amadou. The veins formed a full and solid cord, and coagulation had taken place in them below the ligature; the lumbar pains had ceased. On the 12th day the wasted testis had regained some size, and there were erections of the penis; on the 21st the wound was cicatrized, the cord diminished in volume, and the testicle increased.

On the 24th day the patient was attacked with a rigor and attach of fever; his skin had assumed a slightly yellow tint. On the 25th and 26th days there were two attacks of fever, with rigors, thirst, and depression, but without any local pain or symptom. Quina was prescribed on the 26th, but during that day and night there were three attacks of fever, and in the evening of the 28th the unfortunate patient died.

Dissection. The cicatrix of the wound in the groin was firm, the cavity of the spermatic veins was obliterated, and they were solid and filled with a firm adherent clot. There was no plebitis nor inflammation of the peritoneum. The testicle was in a great degree restored, redder than natural, slightly "infiltrated," but otherwise healthy in structure. The liver was enlarged with prominences here and there, Uunder each of these prominences was one or sev-

eral *foyers* of scrofulous tubercles of different degrees of consistence, for the most part in a state of softening. A great many abscesses existed deeply in the substance of the liver, and in their neighborhood the organ was inflamed.

Case 2. A cook, æt 26, had labored under varicocele on the right side for eight years. The pain was very considerable, and M. Delpech operated upon him. An incision, an inch in length, was made about an inch below the inguinal canal, in the direction of the cord—the varicose veins were exposed, seized with the forceps, and separated by the nails from the surrounding parts. A strip of amadou half an inch in breadth, was then passed under the vessels, and its extremities brought out at the wound, and secured there by adhesive plaster. Thus there was no ligature upon the veins which were merely isolated for a small space from the surrounding parts, and left in contact with the amadou. On the fourth day the veins were red externally, manifestly choked by the adhesive inflammation internally; there had been little swelling or inflammation of the parts around. The amadou was withdrawn. The success of this operation was complete, the cavities of the veins becoming obliterated, the disease cured, and the testis regaining its natural dimensions.

M. Delpech thinks the employment of the amadou a great improvement in the method of procuring obliteration of the veins. He thinks it cannot be attended with risk of phlebitis, although section and ligature of the vein certainly are so. We saw fatal inflammation of the saphena vein brought on in an adult, by rough examination only, though it is proper to mention that the patient had formerly had an attack of inflammation of the same vessel. Phlebitis also occurs spontaneously; therefore, we see no reason why M. Delpech's operation must necessarily be unattended with danger. In this country surgeons shew an indisposition to meddle with varicocele, and we certainly do not meet with many cases in which the inconveniences are very serious. We have laid the gist of M. Delpech's memoir before our surgical brethren, in order that they may put his proposal to the test of their experience, if fit and proper cases should present themselves. By the way, we may observe, that in one of the Parisian hospitals, the spermatic artery has been tied for varicocele, in order to effect the wasting of the testis. We should not expect much from this operation. Castration has also been performed, but on this we need say nothing. We again recommend M. Delpech's proposals and the result of his cases to the attention of our brethren.—*Medico-Chirurg. Rev.*

3. *On Death from Lithotomy.*—I cannot too strongly recommend to you the study of the cases that prove fatal. It is from them that you may learn how to prevent other cases from proving so.

Too free division of the prostate is one cause of death. What are the consequences of this too free division? At first the symptoms are not well marked. There is some heat of skin, quickness of pulse, want of sleep; but the more characteristic symptoms seldom begin later than 24 hours after the operation. They commence with shivering, pain

in the loins—the pulse rises—the tongue grows white—the patient still retains his intellects. Now there is some pain in the pubes and left groin—the pulse has a weak beat and intermits, at first, perhaps, once in forty strokes, then in five or six—there is hiccup, and, if there was no shivering at first, there is shivering now. The belly becomes tympanitic, and in consequence of the tympanitis, tender. The symptoms go on—generally there is delirium, but occasionally the patient retains his senses to the last, and now death closes the scene.

On dissection, you find the intestines distended with air, but no general peritonitis, except just at the lower part of the belly, where the peritonæum is reflected from the rectum to the bladder, and where, perhaps, it is a little inflamed. The cellular membrane of the pelvis is sloughy, inflamed, putrid, and here is the mischief. You may think that peritonitis is common after lithotomy, and the profession generally do think so—but it is not the case. It is this *sloughing of the cellular membrane* that is frequent, and that is constantly mistaken for peritonitis. Don't make this mistake; if you do, if you bleed or purge, the clock runs down the faster. Give, at first, salines, with a little excess of ammonia; then opium, wine, brandy, &c. Adults very seldom recover—children occasionally do so. After presenting these symptoms for two or three weeks, one child recovered, a putrid abscess bursting into the wound. Another child recovered, a slough giving way into the rectum.

Surgical Treatment of this Affection. I will mention to you a case.

Case. In a patient whom I lithotomized, I used Mr. Blizard's knife, an abominable instrument. I cut through the prostate gland, and all seemed right to the lookers-on. I felt uneasy. In 36 hours there were suspicious symptoms; in 48 hours they were well marked: there were intermitting pulse, tympanitic belly, manifestly mischief in the cellular membrane, round the neck of the bladder. I introduced my finger into the rectum, and passed Savigny's probe-pointed bistoury up the wound to its left extremity; then I pushed forward the moveable sharp point, divided the coats of the rectum on my finger, and cut outwards with the point resting on my finger, exactly as you operate for fistula ani. The intermissions of the pulse grew less frequent, then ceased, and ultimately the patient recovered.

Hæmorrhage. This is another cause of death after lithotomy. I have myself seen three patients die of hæmorrhage. One was a patient of Sir E. Home's; he died when I was house-surgeon. A patient of an eminent lithotomist died. The third was a patient of my own, and in him the hæmorrhage was venous. I have heard of other cases, though I have seen no more.

Division of Pudic Artery. Many years ago, Sir E. Home operated on a patient for stone. In half an hour after the operation I found the patient apparently dying from profuse hæmorrhage, which was still

going on. I brought the patient with his perinæum to the light, and finding that pressure on the pudic artery, stopped the bleeding, I tied it, by passing a curved silver needle between it and the bone. The bleeding was arrested and did not return. In a private patient the hæmorrhage was only stopped by an assistant's keeping his finger on the pudic artery for five or six hours together.

Sometimes there is hæmorrhage from the neck of the bladder. The best way under such circumstances, is to introduce the longest finger into the rectum, and press on the neck of the bladder. You should previously pass a canula into the wound; it serves for a point d'appui, and lets out the blood, &c.

Death from Exhaustion.—Case.—A patient underwent a tedious operation, the stone breaking, the perinæum deep, the man very fat. He was put to bed, and died with symptoms of exhaustion.

A long operation is always hazardous. Sometimes the patients fall afterwards into a deep dose or state of coma, and though they sometimes recover, they often die.

Persons affected with organic disease are, of course, not such good subjects for lithotomy, as those who are not so affected. But organic disease of other organs is not near so important as the sound or unsound state of the urinary organs.

Enlarged Prostate.—I do not think that an enlarged prostate is of any material consequence, for patients who have it do very well. But when the prostate is ulcerated, *never* operate. I have seen it done in three instances, and in each fatally.

Chronic Inflammation of the Bladder. Chronic inflammation of the mucous membrane of the bladder is a serious, but not a fatal objection. If the inflammation of the bladder is acute, they die.

Case. 1. Such a patient, on whom I operated, did pretty well for a week, then fell into a low state and died. The inflammation extended up the ureter, and muco-purulent matter was found in the pelvis and infundibula. I operated against my own judgment.

Case 2. Another patient died four or five weeks after the operation. There was inflammation and suppuration (?) in the cellular membrane *all* round the bladder.

With Abscess in the Kidney. If there be abscess in the kidney, the patient is sure to die. Inflammation of the kidney, independent of abscess, confers danger when there is pain in the loins and across the lower part of the belly—languor and utter listlessness—hands and feet chilly—urine albuminous; when there are these symptoms, the case is a bad one for operation. But if the urine contains pus or any thing approaching to it, the case is still worse. More frequently

patients operated on with abscess of the kidney, die after a certain length of time, having apparently recovered from the operation.

Case. Sir E. Home operated on such a patient. He said during the operation that something had burst in the loins. He died in three days. On dissection an abscess *was* found to have burst into the cellular membrane, behind the peritoneum and below the kidney.

Generally they die several weeks afterwards with the usual symptoms of suppuration in the kidney.

Age. Children generally do well. Persons between 70 and 80 do better than those between 50 and 70. Such is my experience, and such is that of the Norwich Hospital.—***Brodie on Calculous Disorders.***

4. ***Poisoning by Cantharides.***—A young woman serving in a dram shop, administered some lytta in raspberry brandy, to two young men, each of them taking half a pint of the liquor in question. One of them soon afterwards set out for Stourport, six miles distant, but was seized on the road with violent pain in the stomach and bowels, which compelled him to sit down frequently, insomuch that he was six hours in reaching the place in question. Mr. Williams, of Bewdley was summoned, and found him suffering from violent pain in the stomach, bowels, kidneys, and bladder; a constant desire to make water, and a burning heat in the throat. Vomiting was produced by a mixture of sugar, water, and sweet oil, and afterwards he was ordered to drink freely of linseed tea.

At 4. a. m. next morning, the skin was very hot, the sense of burning in the throat more urgent, the straining to make water incessant, whilst only a few drops of blood were voided, the pulse 100, the tongue thickly coated. *V. S. ad.* oz.xij.—*Enema,—ol. ric.* oz.iss. At noon the strangury continued, with much tenderness in the region of the kidneys, ureters, and bladder; bowels opened, pulse 100. *V. S. ad.* oz.xiv.—*Rep. ol. ric. et enemata. Linseed tea and barley water.* At 5, p. m. the tenderness was much increased; pulse 115; great restlessness, with occasional delirium. *V. S. ad.* oz.xvj.—*Ol. ric. et enemata.* 12, p. M. Restlessness very great; constant delirium with some slight convulsion; face much flushed and conjunctivæ injected; strangury distressing; pulse 125, hard and incompressible. He was bled to oz.xxiv., kept in syncope for nearly an hour, then allowed to lie down, and eight drops of laudanum in some linseed tea were given him. After this the urgent symptons ceased, though the urine continued somewhat bloody, and the tongue peculiarly coated till the 6th or 7th of July. The patient was then convalescent.

We need not give the particulars of the other case, as the symptoms were similar to those of the last, and the same kind of treatment, though not so active, proved successful.—*Medico Chirurg. Rev.*

5. ***Congenital Malformation of the Cornea and Sclerotica.***—A servant, æt. 22, has a small excrescence on the left eye, arising from the

cornea and sclerotica, at its temporal side; its surface white, smooth, convex; in its centre a small depression from which strong black hairs arise, which incline downwards, so as to hang over the lower lid; it is firm to the touch, and appears to be covered by the sclerotic conjunctiva; the surrounding cornea and sclerotica preserve their natural structure. He says that the blemish was congenital, and that the hairs began to plague him only a few years ago. The man usually calls on Mr. Middlemore once in every six weeks, in order to have the hairs removed. Mr. M. intends to apply the nitrate of silver to the cavities containing the bulbs of the largest hairs, when he next extracts them, and if this fails to dissect them out, if it can be done without danger of penetrating the globe. The hairs are of the same color, and have the same inclination as those of the lower eyelid. This is the only instance of such a congenital malformation which Mr. Middlemore has witnessed.

In a patient with hernia we remarked a deficiency of the circle of the iris at its inferior part. The pupil was of course oblong from above downwards; vision was very imperfect with that eye. The same individual had all the appearances of the blue disease, though not in an aggravated degree, so that there seemed to be a tendency to imperfection in her formation, a circumstance not uncommon.—*Mid. Report.*

6. *Treatment of Croup.* Speaking of the remedies for this disease, Mr. Goselad remarks, "Amongst these, the warm bath is one of the most active, and, at the same time, most injurious; and I cannot imagine how any one, who has once witnessed its effects, can again recommend it in Croup. It is, in my opinion, so decidedly hurtful, by quickening the circulation, that I should interdict its use in almost all inflammatory cases. The warm bath, I think, is never useful unless prolonged until faintness is produced; and in the early stages of inflammatory complaints, it is often impossible to produce this effect, until the heart beats more than 130 times in a minute, which is a degree of excitement I think unwarrantable. If resorted to later, effusion is brought on sooner than it would otherwise supervene; and many practitioners could, I think, call to mind cases, where its use has been followed by unexpected death: the vessels previously emptied perhaps by bleeding, having given way, and appoplexy supervened." —*Med. Chirurg. Rev.*

7. *Vesico-Vaginal Fistula successfully treated by the Suture.* Marie Reggiani, æt. 22, had labored under a vesico-vaginal fistula since her first confinement, which had been protracted and severe; the finger could be readily passed through the fistula into the bladder. For eight months a great variety of plans were employed without success, and she repaired to M. Malagodi at Bologna, who performed the operation we are about to describe. Having placed the patient in the lithotomy position, he introduced the finger of the right hand, covered with the finger of a glove, into the fistulous opening, and bending it drew down the left border of the fistula to the orifice of the vagina; and then, with

the other hand he pared off the border with a straight bistoury. The hand was changed, and the same operation repeated on the right border of the fistula. The object was now to bring the two pared edges in contact. M. Malagodi had armed each end of these ligatures with a very small curved needle, and there was a handle to which the needles might be fixed at pleasure. He then reintroduced the right index finger into the opening, and brought down its left border, and with the left hand passed a needle through it near the posterior angle of the wound. A second and third needle were passed in the same manner, at equal distances from each other, and their opposite border was transfixed in the same manner, when the ligatures were tied, and the sides of the opening brought together. The patient was placed on her back in bed, and the catheter kept in the bladder, and the urine allowed to flow constantly into a porringer. Until the morning of the third day the water was passed through the catheter only, but then it began to escape by the wound into the vagina. On the fourth day an examination was made by M. Malagodi, who found that the two posterior sutures remained firm, and on withdrawing them the union of the sides of the fistula was complete. The anterior ligature on the other hand, had torn the left border of the wound, and nearly a third of the original fistula thus remained unhealed. To effect the contraction and perfect cicatrization of this, M. Malagodi touched the edges regularly with the nitrate of silver, leaving the catheter constantly in the bladder. The plan was persisted in for some weeks, and was crowned with perfect success.—*Rocoglitor Medico, July*, 1829.

8. *Mr. Duffin's New Shield Pessary.* Mr. Duffin has invented a pessary, which he thinks superior to those in common use. It is a modification of the stalk pessary, and by means of a graduating screw, the length of the stalk can be accommodated to that of the vagina as the cure advances. The head, which is hollowed at its summit into a cup, being of a size adapted to that of the vagina in the particular case, and hollowed in proportion to the magnitude of the parts it has to receive, affords support without irritation or injury. The head may be made to unscrew, so that as the vagina contracts, a smaller one may be substituted for it. The shield being pressed externally against the perinæum and perinæal part of the labia, and retained firmly in that situation by a thick T bandage of cotton, to which it may be attached, supports steadily through the medium of the head and stalk the weight of the prolapsed organ, and obviates all vacillation of the extremity of the stalk. Between the shield and the stalk is a ball and socket-joint, allowing the instrument to accommodate itself to every change of posture, preventing any jarring impulse or undue friction. The pessary being hollow, and open at the extremity of the stalk, the shield also being perforated in this situation, whilst the head of the instrument also being perforated in numerous places, any astringent or other lotion can be thrown in by means of a syringe or India-rubber bottle. The instrument has received the approbation of Drs. Charles Clark, Bundell, Henry Davies, and Robert Lee. The pessary is

best made of ivory, but for economy, the head and shield may be constructed of boxwood, the stem and joint of ivory. The instrument may be procured from Messrs. Stoddart, No. 401, Strand. A wood-cut representing it is to be seen in the Medical Gazette for March 26th, 1831.—*Medico-Chirurg. Rev.*

9. *Congenital Blindness cured at an advanced Age.** When this lady came under Mr. Wardrop's care, she was in her 46th year. The right eye-ball was collapsed, the left retaining its natural globular form. The cornea of this eye was transparent, except at one point where there was a linear opacity, probably the cicatrix of a wound made by a Parisian oculist, in an unsuccessful attempt to restore vision when she was six months old. The anterior chamber of the eye was of its natural capacity, but no vestige of a pupil was perceptible, some streaks of yellow lymph being deposited in an irregular manner over the central part of the iris. There was reason to believe that the retina was sound; for though she could not perceive objects, or form any idea of colors, yet she was able to distinguish between a very light and a very dark room, and between a gloomy day and sunshine. Under this impression, Mr. W. thought the attempt to restore sight by an artificial pupil was worthy of a trial. On the 29th January, he introduced a small needle through the cornea, and passed it through the centre of the iris, but could not destroy the adhesions which had shut up the pupillar opening. After this she could perceive a little more light, but not forms or colors. On the 8th February, a second operation was performed, by passing a sharp-edged needle through the sclerotica, bringing its point through the iris into the anterior chamber, repassing it into the posterior chamber at a small distance, and then dividing the portion of iris thus included between the two perforations of the needle. A slight inflammation followed—the light became offensive—but it was evident the sight was still very imperfect. On the 17th of February, a third operation was performed, which consisted in still further enlarging the opening in the iris, and in removing some opake matter by a needle introduced through the sclerotica. In returning home from Mr. Wardrop's house, with the eye covered with a loose piece of silk, the first thing she noticed was a hackney coach passing, when she exclaimed,—"What is that large thing that has passed by us?" In the course of the evening, she requested her brother to shew her his watch, which she narrowly surveyed close to her eye. She remarked there was a dark and a bright side. She pointed to the hour of 12 and smiled. When asked if she saw any thing more on the dial plate, she replied, "yes," and pointed to the hour of 6, and to the hands of the watch. She then looked at the chain and seals, remarking that one of the seals was bright, which was the case, being of crystal. Next day she refused to look at the

* Case of a lady born blind, who received sight at an advanced age by the formation of an artificial pupil. By James Wardrop, Esq. F. R. S. Ed. &c.—from the Philosophical Transactions.

watch, observing that she was confused by the visible world thus for the first time opened to her. On the third day, she observed the doors on the opposite side of the street, but mistook their color. This day she saw the nose on her brother's face, (dimensions and color not stated,) and on the sixth day saw still better, but was bewildered, from not being able to combine the sense of sight and touch, feeling disappointed in not having the power of distinguishing at once by the eye those objects which she could easily distinguish from one another by feeling them. In short, she had almost every thing to learn—for although she could distinguish one object from another, she knew not, by the newly acquired sense, what any object was—nor could she form any idea of its distance from her. She was, however, highly delighted with restored vision, and we almost envy her the pleasure which she must feel on the sight of so many *novelties*, at an age when novelties begin to be scarce articles with most human beings—even of her sex.

There is no other case on record where the sense of vision was restored at so late a period of life—and it is not a little remarkable, that the optic nerve should remain fit to receive the impressions of external objects for the long space of 46 years, during which, it was totally excluded from the performance of its function. The operation is very creditable to Mr. Wardrop, and we wish him long life and many opportunities of *enlightening*, not only the visual orbs of his fellow creatures, but the dark paths of the medical science. We also wish him plenty of "*pupils*," natural and artificial, to operate on in Bartholomew Close—which some folks think is rather *too close to* Bartholomew.—*Ibid.*

10. *Œsophagitis Hydrophobia.** The following case proves one of two things—either that the bite of a dog (which was not proved to be mad) could be followed two years afterwards by symptoms of hydrophobia; or, what is much more likely, that hydrophobia may result from other causes than the bite of a rabid animal.

Case. J. Kneiss, aged 48 years, of sanguineous temperament, and in excellent health, received a slight scratch from a dog, that did not evince, before or after, any appearance of hydrophobia. He took no notice of the accident. Nearly two years after this, having drank freely of cold liquids, while heated by work, in the month of May, he soon experienced a difficulty of swallowing fluids, a sense of weight in his limbs, and a feeling of intense cold throughout his body. He took some trifling medicines, and on the third day there was violent fever great thirst, and such a spasmodic affection of all the parts about the œsophagus and larynx, on the attempt to swallow liquids, that he fell into a kind of deliquium. This was reproduced by each succeeding attempt. On being received into the hospital at Bamberg, he presented, besides the foregoing symptoms, a remarkable velocity in all his move-

* Ch. Pfeuser, Senior Physician to the General Hospital of Bamberg.—*Heid. Klin. Annas.* 1825.

ments, a loquacity of speech, and a furious expression in his countenance. The pulse was quick and full, the action of the heart precipitous, and sometimes suspended, skin hot and dry, thirst considerable, tongue coated, urine scanty, red, and turbid; deglutition of solids easy. He was bled to thirty-two ounces, and had a laxative enema. The ensuing night was spent in dreadful agitation, with occasional delirium, convulsive movements, and fits of lipothymia. The pyrexia now ceased for a time, and calomel with belladonna, in small doses, were prescribed, while mercurial frictions with the same were applied along the spinal column. The thirst soon afterwards became intense, the pupils dilated, and a frothy mucus was ejected from the mouth. These symptoms continued for two days more, and the sight of water or any other liquid produced horrible convulsions. The patient complained of intense pain in the region of the stomach, and the tongue seemed inflamed. Eight ounces of blood from the jugular vein, and twenty leeches applied to the head. Ice was also applied to this part, a blister to the nape of the neck, and sinapisms to the lower extremities. In the evening, a severe paroxysm of agitation, and 32 ounces of blood were abstracted. A complete remission of all the symptoms followed, the patient was calm and collected, full of hope, and swallowed whatever medicines were offered to him. This state of tranquillity lasted all the day, and in the beginning of the night he had three hours' calm sleep. From this period he fell into a state of extreme apathy, stupor, and complete prostration of physical and intellectual forces. He died in a few hours afterwards.

Dissection. The cerebral substance was extremely soft—spinal marrow sound—salivary glands very much swelled—some gangrenous eschars on the surface of the pharynx and larynx, the vessels of which were extremely injected—thyroid gland enlarged, changed in color, soft, and full of thin black blood—œsophagus inflamed throughout its whole extent, and presenting some spots of gangrene—the diaphragm in the same condition—mucous membrane of the stomach and duodenum very red—pancreas in the same state as the salivary glands.

This is a curious case; and we think, there can be little doubt that the ingurgitation of cold liquids, when the body was heated, produced the inflammation in the mucous membrane of the parts above-mentioned; and that this inflammation, tending so rapidly to gangrene, gave evolution to the whole of the phenomena described. The more we study the physiology and pathology of these mucous membranes, the more we shall be astonished at the overwhelming influence which irritation of their nerves exerts over the whole of our physical and intellectual functions. This study is yet in its infancy, and it presents the widest, as well as the richest field for genius and talent to cultivate—*Ib.*

11. *Case of Extra-uterine Fœtation.* By M. F. Wagstaff, Esq.; —"On the 28th of April, 1829, I was desired to visit Mrs. Rondeau, a married lady, about 25 years of age. I had delivered her of twins in her first accouchement, and of a single child in her second,

which child, at this period, had not been weaned. No irregular circumstances occurred in either of those labors.

I found her reclined on a sofa, on the right side, her countenance very pallid, pulse greatly accelerated and small, much anxiety about the præcordia, lancinating pains in the abdomen, constant tenesmus both of rectum and bladder, with frequent vomiting.

Her mother gave the following statement of the previous occurrences:—

"After having eaten some cold lamb and potatoes, and drank a glass of porter, we walked together into Blackfriars' road, (about half a mile,) when Mrs. Rondeau suddenly complained of acute pain in the body, and requested a coach to be procured, in which she was conveyed home, where I gave my daughter some warm brandy and water immediately, supposing the pain to have arisen from indigestion, especially as it was attended with vomiting and relaxation of the bowels, and applied warm fomentation: this took place at two o'clock; at four, (as I found the pain increase,) I sent for you."

The symptoms, as they appeared on my arrival, I have just described: they were very analogous to those of Cholera Morbus; but as no inflammatory symptoms supervened, I prescribed anodyne and carminative medicines.

The pain continued during the whole evening; the abdomen enlarged, the pulse diminished, and, a little before twelve the same night, she expired.

The rapid progress and fatal termination of this case naturally excited a desire to be better acquainted with the *cause* of dissolution, which was not clearly shown by the symptoms; I therefore requested permission to inspect the body, which was readily granted by the relatives.

On the subsequent afternoon, I went accompanied by Mr. Nordblad, Curator of St. Thomas's museum, and my son, to make an examination, of which the following is a statement:—

Sectio Cadaveris. On the appearance of the body, fourteen hours after death, the surface exhibited a completely blanched state, with fulness and tension of the abdomen.

On cutting through the abdominal muscles, the peritoneal sack was found to be distended with *blood*, (amounting, by weight, to four pounds fourteen ounces,) partially coagulated.

While this was being removed cautiously, a fœtus was discovered in it of about seven or eight weeks' growth.

No laceration appearing in the uterus, attention was naturally directed to the appendages of that viscus, when the part where the fœtus had escaped was manifested by the ragged placenta, which hung from its situation in the left fallopian tube.

This left no doubt as to the nature of the case. The parts were then removed, and on a careful examination, it was ascertained that the fœtus had been contained in a sac formed by the left fallopian tube.

This sac was equal in size to a pigeon's egg, and occupied two-thirds of the length of the tube, nearest to the uterus.

The remaining portion of the tube was of its natural size, and its fimbriated margin free from obstruction.

A probe passed along its canal, stopped abruptly at the commencement of the dilatation, where the placenta protrudes; the distention of its sac increased to its centre, at which part it had given way, allowing the exit of the fœtus.

The rupture is as large as the point of a finger, and through it a detached portion of the placenta hung into the abdominal cavity.

The body of the uterus had enlarged to a size equal to that of the same viscus at a similar period of gestation; its walls were thickened and its cavity lined by recent deposit, evidently forming the decidua.*

A careful examination could not detect any rent in the peritoneal surface, nor was there the slightest mark of visceral disease.

Remarks. Extra-Uterine Fœtations are probably more frequent than we have been accustomed to imagine: little was known about them previous to the last century.

Mr. Turnbull, a surgeon of eminence, published a case of Extra-Uterine Fœtation, of the ventral kind, where pregnancy had existed fifteen months, and the child was (*post mortem*) removed by him from the abdomen. In this publication he refers as far back as 1683, to a case published in the Philosophical Transactions of that date, and gives a list of references to various authors, down to the days of Drs. Smellie, Lowther, and Garthshore, and so on to his own case, published in 1791.

He remarks, 'that although it is generally understood that the uterus is essentially necessary for the purposes of conception, yet these different fœtations incline us to believe that it is not ***absolutely so***, and that the principal advantages which that organ possesses over other living parts are derived from its situation and dilatable powers, and from its being possessed of *muscular* structure with an *external opening*. The former being admirably calculated for the purposes of growth and evolution, without any interference with the vital parts: and the latter for the prevention of hæmorrhages and the expulsion of the fœtus.'

The case I have just related seems calculated to corroborate this hypothesis. Does it not prove that the uterus is only a receptacle? though evidently the best suited for the purpose (being the natural one); yet, in this particular instance, the fœtus was nourished seven or eight weeks in its unnatural habitation—the fallopian tube, which, being impervious at the uterine extremity, could not permit the passage of the fœtus into the uterus.

* "This is a peculiar circumstance, worthy of investigation. How does it happen that the decidua should be *forming in* the uterus, when the fallopian tube was imperforate *beyond* the fœtus? No communication whatever between it and the uterus. The uterus had taken on its action of pregnancy, although empty, and a deposit to form, or forming a membrane.

A question here naturally arises, How was the fœtus nourished? It continued to enlarge until the texture of the fallopian tube gave way to over-distension.

It is evident that its nourishment was obtained from the vessels of the placenta, which received it from their numerous ramifications on the internal surface of the fallopian tube. Suppose, in the expulsion of the fœtus through the rupture in the fallopian tube, the funis umbilicalis had *not* been separated, but remained perfect, would it not have continued to supply the fœtus from the same source it had done before, namely, the internal surface of the fallopian tube; and might not its ramifications have been extended over neighboring parts, and thereby produced a supply augmenting with the enlargement and demand of the fœtus? The generally received theory is, that the ovum is impregnated in the ovarium and becomes detached in consequence; the fimbræ of the fallopian tube, having seized the ovarium, convey the ovum, at the moment of its detachment into the uterus, for nourishment; but, if they should miss their grasp,—or, having obtained it, should lose their hold, it must fall into the abdominal cavity, and thereby constitute a ventral case.

Adhesion readily takes place, from which ramifications are soon found to extend, and obtain a supply for the nourishment and growth of the fœtus.—*Medico-Chirurg. Rev.*

12. *On Death from Syncope—Observations on Venesection.* By M. Piorry.—The cessation of the cerebral circulation is, our author thinks, next to asphyxia, from the accumulation of bronchial mucus, the most common way in which death takes place. In all great hæmorrhages there is an abundant secretion of fluid from the surface of the intestinal canal, and also from all the other mucous tissues, which tends further to exhaust the strength and deprive the brain of a due afflux of blood. The heart being ill-supplied with nervous energy from the brain, becomes distended, and at length ceases to carry on the circulation. From the circumstance that the brain is encased in bone, the vessels will be found full after death, even from hæmorrhage—and this has led some pathologists astray. Our author has often seen death occasioned by injudicious venesection. In dilatation of the heart at the Hotel Dieu, he has often seen the fatal effects of blood-letting. The author therefore lays down a set of rules respecting venesection, which he thinks it would be of great use to observe.

1mo. When, in a person, we find a dull sound on percussion of the chest, when there is active dilatation of the heart—when the liver is enlarged—the veins distended, the pulse full, and the circulation active, we may be sure that the circulation is in excess, and we need not fear to bleed freely. But if the symptoms are the reverse of the above, we should be cautious in the use of the lancet. We should also be cautious, he observes, when the skin is fresh-colored, but where the internal organs give indications the reverse of plethora. In doubtful cases, we should never bleed in the horizontal position; for if syncope then occurs, we have no recourse from the change of posture.—*Ib.*

13. *Baron Heurteloup on Lithotrity.—Construction of Instruments.*—"First Rule. Rectitude in a sound being: 1st, *the most favorable shape for bringing, without effort, the extremity of the instrument into contact with a great extent of the parietes of the bladder, and more especially with its fundus;* 2d, *for allowing the instrument to be removed backwards and forwards with facility;* 3d, *for permitting it to be rotated on itself,* all instruments of lithotrity *must be straight in that portion of them which remains in the urethra during the operation,* for a curve would render them faulty in proportion as it impeded the execution of these three fundamental properties.

Second Rule. Since the operation of lithotrity must be performed whilst the bladder is distended with water, it follows that the instrument must unite the necessary conditions for preventing the liquid, when once introduced, from escaping during the operation; hence, 1st, *it is necessary that the instrument should be, as nearly as possible, of the same diameter throughout, and that its vesical extremity should be as little enlarged as possible,* for the urethra through which an end much enlarged passed, would be but incompletely filled by the body of the instrument, and the water would consequently escape between the instrument and the sides of the canal; 2d, *the instrument must be of sufficient size to fill the canal, but not large enough to distend it, and render the movements difficult;* 3d, *it must finally be constructed so as to prevent the water from flowing out between its component parts.*

Third Rule. Since the urethræ vary in size, from two lines and a half, to four and a half, it follows *that the instruments must also present different diameters.*

Fourth Rule.—The contraction of the bladder being sometimes powerful enough to expel, between the canal and the instrument, almost all the water it contains, it is necessary *that every instrument of lithrotrity should allow a fresh injection to be made into that organ, in order to distend it,* so that the instrument may be closed without any danger.*

Fifth Rule.—Since the bladder varies in its antero-posterior diameter, from two to three inches, on account of its contraction, *a lithotritic instrument must be constructed, so that its branches may expand sufficiently to seize the stone, and yet, not project more than two inches and a half from the tube which contains them.* The instrument must also admit of *the projection of the branches being diminished if circumstances should require it;* and this is the more requisite, since those bladders which contain the largest stones are generally the least capacious.

* "I am here only alluding to the instruments which act by *progressive wasting* on the stone, and which consist of three or four branches, for these alone are apt to become entangled in the bladder."

Sixth Rule.—When an instrument is expanded, and is in action in the interior of the bladder, the spot where the branches project from the tube is almost always in close contact with the neck of the organ; hence it is necessary *that the brancher should have free motion, without affording a possibility of pinching at the part where they unite, and should always preserve the same distance between them, whether projected from, or drawn into the tube.*

Seventh Rule.—The bladder sometimes violently contracts during the operation of lithotrity, and presses upon the branches of the instrument which, when drawn towards the neck, are compressed by this part of the viscus, so that the surgeon is no longer master of the expansion of his forceps, and his manœuvres are totally impeded. It follows, therefore, *that the branches of every lithotritic instrument should be supported when they project from the tube and are expanded in the bladder, and that their expansion should not be entirely entrusted to the elasticity of the metal.*

Eighth Rule.—The object in constructing a lithotritic instrument being to bring a mechanical agent into action in the interior of the bladder, where the surgeon is unable to see in what manner it acts; it follows, *that every instrument for lithotrity must be graduated;* so that by means of certain signs placed at the extra-vesical extremity of the instrument, *the operator may be enabled to ascertain what is going forward at the intra-vesical portion,* Marks well contrived, are therefore of the greatest importance.

Ninth Rule.—Some bladders are very irregular, and their superior and posterior parts, although distended with water, are sometimes forced from the sacrum towards the neck of the bladder, either by the contraction of the viscus itself, or by the pressure of the intestines which are pushed down by the abdominal muscles; it follows, therefore, that an instrument, destined to seize large calculi, which require a large expansion of the branches is faulty in its construction, *if the branch which is above, terminates in a hooked extremity; it is the more faulty the further the branches project from the tube to grasp the stone, and the smaller the size of the bladder.*

Tenth Rule.—Since it is necessary under certain circumstances, to discontinue the operation of lithotrity, either on account of a great degree of sensitiveness in the patient, or because of a violent and permanent contraction of the bladder, it follows, that it is not sufficient for an instrument to *grasp* the stone with facility, *but it must relax its hold with equal ease;* and as this becomes more frequently necessary in operating on large calculi, this property must predominate more especially in those instruments destined to act in such cases.

Eleventh Rule.—Since the excavation of large calculi produces a very considerable quantity of powder, which would clog the action of

the 'evideur' (excavator), it follows, that *an instrument intended to excavate such calculi, must afford the facility of injecting water into the bladder to wash away the superabundant powder, even whilst the instrument is in action.*

Twelfth Rule.—Since that portion of the instrument which destroys the stone by *progressive wearing away* must be removed as far as possible from the parietes of the bladder, it follows *that this action must proceed from the centre of the calculus to its circumference;* for were it otherwise, the destroying agent would be in almost immediate contact with the interior of the organ.

Thirteenth Rule.—Since the action of the instruments upon the stone must be performed with the greatest regularity, both as regards the action of seizing and that of breaking, and since the exact performance of this must depend entirely upon the manœuvres of the surgeon, it follows, that *no part of a lithotritic instrument must be left to act by means of springs, the movements of which are in a great measure independent of the surgeon's will.*

Fourteenth Rule.—Since it is necessary that the different parts of an instrument should play with facility, one upon another, in order that the surgeon may have all the precision and delicacy of his tact, it follows that the instrument *must not only admit of this free and easy play,* but it must also be so constructed as to render it easy *to take it to pieces, so that it may, in all its parts, be thoroughly cleaned.* Without the observance of this condition in an instrument, there cannot be sufficient precision in the manœuvres."*

On the Circumstances which interfere with, or are favorable to Lithotrity.—Lithotrity is not equally applicable to all ages. It is generally, and for reasons which must partly be very obvious, inapplicable to children under eight or ten years of age. The adult is the most favorable time of life for the operation, and the smaller the stone, and the earlier it is operated on the better. Old persons are less adapted for lithotrity on account of the deficient power of the bladder to expel its contents, and the fragments of the calculus.

Corpulency, which is an impediment to lithotomy, rather offers facilities for the performance of lithotrity; it is therefore no objection, at least in a healthy condition of the urinary system. A great degree of organic disease furnishes sufficient reason for shunning the operation, especially if several sittings are required. A strong cal-

* "A great number of instruments have been invented to perform the operation of Lithotrity, and more especially in France, but they have proved unfit for use, as the most part of them deviate from one or the other of the rules here laid down, and are thus the more defective and inapplicable, in proportion to the importance of the rule neglected; many of these instruments are faulty from the non-observance of 5, 6, 7, or 8 rules, and unfortunately operations attempted with them have sometimes caused the death of the patient; but can such fatal terminations be laid to the account of Lithotrity?"

culous diathesis may also prohibit lithotrity, or give the surgeon pause before he ventures on it.

The state of the urethra requires consideration. If naturally of small size, the circumstance is unfavorable; a small orifice is inconvenient, and must be divided, and stricture of the urethra renders it difficult or even impossible.

A large scrotal hernia is an embarrasing, but not insurmountable obstacle.

"Stones lodged in the urethra give rise also to great, and sometimes even insurmountable difficulties, especially when the calculus has become imbedded in the canal, and can only be removed by an opening. * * * There is a very important consideration with regard to calculi thus lodged in the urethra, to which lithotomy itself gives rise. Before the art of pulverizing a stone in the bladder was introduced, the rule was, that, when a calculus became lodged in the urethra, great care was to be taken not to push it back again into the bladder, but to extract it by making an opening into the canal. This rule was given in order to avoid the operation of lithotomy, which must be performed if the stone be made to pass from the urethra into the bladder. But now that we are enabled by more gentle means, to remove a stone, thus returned into the bladder, without subjecting the patient to the dangers of lithotomy, the rule ought to be precisely the contrary—that is, the stone ought, if possible, to be returned into the bladder, and no opening made to remove it; for, if this operation be trivial when compared with lithotomy, it is an important one when compared w ith lithotrity. The advantages of lithotrity are still more importa nt when we consider, that, when a stone, thus lodged in the ure thrahas been removed by an opening, it is frequently found necessary to perform lithotomy besides, to remove other small calculi remaining in the bladder, the existence of which was not suspected, since the stone lodged in the urethra obstructed the passage, and prevented those in the bladder from being ascertained."

A soft and fungous state of the mucous membrane of the urethra is disadvantageous for lithotrity; a very sensitive urethra is so also; bnt this extreme sensibility may generally be relieved or removed by the daily introduction of flexible bougies.

The state of the prostate has great influence on the performance of lithotrity. When enlarged it impedes the operation, and its various varieties of form and figure exert a material influence on the operation. "Not to be unjust, however," says the Baron, "towards the prostate gland, I will here terminate by remarking that it is too often accused of producing difficulties which result from totally different causes."

The condition and form of the bladder are, of course, of great importance. A large lateral diameter of the bladder is productive of great inconvenience and difficulty. Its form is sometimes injuriously altered by internal hæmorrhoids, or accumulations of fæces in the rectum. A bladder presenting pouches requires great care in the

manœuvering of the instrument, and when it contains two or three cavities communicating with each other, it offers great difficulties both to the lithotritist and the lithotomist. A bladder of moderate size is the best adapted for the operation. A diseased state of the bladder deserves great attention. Chronic inflammation of the mucous membrane is common, and gives rise to considerations of importance.

"The first of these is, that a patient seldom has a stone and a catarrh of the bladder, without the latter being symptomatic of the former; it is only when the stone has existed for a long time, when the bladder is contracted and thickened, that the catarrh becomes idiopathic, that is to say, that it does not cease when the stone is removed. A proof of this is found in patients who have undergone the operation of lithotomy, and have been cured, but still retain a catarrh of the bladder after the wound has healed. These examples are rare, because, when the bladder is thus catarrhal, hypertrophied, and much diseased in its structure, it is seldom that patients recover after lithotomy. As long as the diseased state of the mucous membrane is not combined with a diseased state of the muscular and cellular tissues, producing the thickening of the coats of the bladder, and that rigidity which prevents its being distended, catarrh does not prohibit the operation."

When the urine is muco-purulent, with a disposition to hæmorrhage, the operation is prohibited.

"Thus the mucus of the bladder only prohibits lithotrity, when the stone is very large, and when there is also contraction of the organ, arising from the thickening of its coats; it is quite clear, that if the stone be small, though the bladder be catarrhal and contracted, lithotrity is practicable, not only on account of the absolute smallness of the stone, but because, being small, it can only be of recent formation, and the contraction of the bladder is not caused by the thickening of its coats, but by the irritation arising from the presence of the calculus, which is then most commonly light, friable, and easy pulverized, but presents small crystals which resemble needle-points. When speaking of the different kinds of calculi, we explained the reason why stones of this sort caused so much irritation and catarrh of the bladder in so short a time."

Paralysis of the bladder offering an obstacle to the discharge of fragments is very inconvenient. Vesical growths and polypi are occasionally met with, and require great care and prudence on the surgeon's part. Sometimes the mucous membrane of the bladder is in a soft fungous state, one very disadvantageous to lithotrity. A varicose state of the veins at the neck of the bladder is unfavorable, and various growths or diseases around it are so likewise. In some patients the bladder is extremely contractile; this is obviously more

or less inconvenient. Finally, the Baron winds up with a sort of summary of what the lithotritist should be, and what he may expect.—*Med. Chirurg. Rev.*

14. *Remarks on Lactation; with Observations on the Healthy and Diseased Conditions of the Breast-milk, &c., &c.* By Edward Morton, M. D., Cantab. Octavo, October, 1831.—Some part of this work was published four years ago in a contemporary journal, and we are informed by the author that subsequent experience in the infantile diseases has convinced him of the correctness of the views which he then broached. The volume is divided into three chapters, the first of which contains nothing that need detain us here. The second is on the disorders that are frequently produced by lactation.

"In cases of extreme delicacy of constitution, lactation will often produce the worst effects. Many young ladies, on becoming mothers, are incapable of supporting the constant drain to which the wants of their infants subject them—they lose their good looks, become gradually weaker, and as their strength declines, their milk is simultaneously lessened in quantity, and altered in its other properties.

If the suckling be still continued, their debility daily increases, distressing pains in the back and loins succeed; the patients become exceedingly nervous, as it is termed, and are unusually susceptible of ordinary impressions; pain in the head, often of great violence, follows, which, in same cases, is succeeded by delirium, in others, by absolute mania. Nor is this the whole catalogue of ills to which, in such cases, the unfortunate mother was subjected: the appetite fails, distressing languor is experienced by day, while copious perspiration, which may easily be mistaken for, or terminate in, true pulmonary consumption; finally, the sight becomes progressively weaker, until vision is almost destroyed; the eyelids exude a glutinous secretion, and ophthalmia itself is occasionally induced.

These are the symptoms too often caused by lactation in delicate or debilitated habits, even a few months after delivery; the same also are observed when suckling has been injudiciously protracted beyond the period to which it should be confined.

A few only of the foregoing symptoms may be noticed, or nearly the whole may present themselves, in the same patient, and when this happens, unless the cause which has given rise to them be at once detected, and appropriate treatment applied, the most serious consequences may be apprehended."

In such cases, Dr. M. observes, half measures are useless or worse. Suckling must be discontinued altogether, for reasons which the author states, and which are sufficiently cogent. The obvious dependency of the foregoing symptoms on debility, will lead the practitioner to the employment of tonics, and other means of invigorating the constitution. Injudicious practitioners have sometimes recourse to cupping for the headach, which, of course aggravates the evil. The occurrence of miscarriage from suckling is illustrated by a case in

private practice; and the author says that it is made public at the desire of the patient herself. We shall quote this case.

"Mrs. A———, a lady of delicate constitution, about twenty years of age, three or four months subsequent to the birth of her first child, began to find her milk gradually lessen in quantity; it had also much changed from its previous appearance, resembling at the time just stated, a yellowish, turbid serum, her child became emaciated; and diarrhœa supervening, my professional services were required. My advice was, that the child should be at once weaned, and a suitable wetnurse, if possible, procured—neither of which suggestions, as will shortly appear, were followed. I urged the necessity of this measure more particularly, because Mrs. A. was daily getting thinner and weaker; she also complained of great pain in the head and back, and of an increasing dimness of sight, which made her fear she should become blind; but the mother-in-law of my patient being, unfortunately, of opinion that pregnancy in the latter would not again occur during the continuance of lactation, recommended that the child, although chiefly supported upon spoon-meat, should occasionally be allowed to take the breast,; and this plan, notwithstanding the wish of Mrs. A——— to the contrary, and my own remonstrances on the subject, was adopted—the effects of which were to increase the mother's ailments, as well as those of her infant. Things went on thus for some time longer, when I once more endeavored to persuade Mrs. A——— to follow my advice, observing, that by an opposite line of conduct she was not only injuring her own health, but that of her child, neither of which I assured her, in my opinion, would be re-established till the latter had been weaned. I expressed also, my complete incredulity as to the non-recurrence of pregnancy in consequence of her infant remaining at the breast; and I added—'It is my firm conviction that if you be pregnant, or should happen shortly to become so, you will miscarry.' About a week after the conversation, she was suddenly seized with flooding, and what I had predicted took place. She now left off suckling, and in about a month, under suitable treatment, completely got rid of all her former complaints; the child also immediately began to improve."

The third chapter embraces the subject of disease in children, resulting from protracted lactation. To this source our author traces cases of vomiting, diarrhœa, debility, scrofula, tabes, convulsions, epilepsy—and, lastly meningitis, with hydrencephalus. This is a long and frightful list of maladies sucked from the breasts of our mothers! It is to meningitis, however, that Dr. Morton chiefly directs his attention. The conclusions to which our author has come, from experience, are as follow:—

"1st.—That if children be suckled for an undue length of time, they will be liable in consequence to be affected with meningitis, or inflammation of the investing membrane of the brain.

2dly,—That should they not become affected with the disorder in question during or soon after the time they are thus improperly suckled, they will nevertheless acquire therefrom a predisposition to cephalic disease at some further period of their lives.

3dly,—That children who are suckled for an undue length of time, when laboring under other diseases, will be much more liable to have the head secondarily affected, than children brought up in a different manner.

4thly,—And lastly, that the same effects will take place in infants, if suckled by women who have been delivered an undue length of time; although the infants themselves may not have been at the breast for too long a period."

15. *Reunion of Divided Parts.*—Baron Larrey, in his highly interesting volume of Surgical Memoirs, of which a translation has recently been published by Messrs. Carey and Lea, relates the following remarkable case of extensive division of the face by the cut of a sabre, and which was successfully treated by him. A Russian Colonel received from a French horseman "a stroke with a sabre, which cut off his nose at its base throughout its whole length. The instrument being directed obliquely, had effected a division of the two canine regions, and two lateral parts of the upper lip, extending into the substance of the two maxillary bones, on a level with the nasal fossæ. This division was bounded by the palatine arch, which formed a part of the flap, turned over upon the chin, and remaining adherent to the living parts of the face, merely by two small shreds of the upper lip, forming the commissures of the mouth. The entire extent of the nasal fossæ, and the cavity of the mouth, without the alveolar arch, were seen on one side, and on the other, the flap formed by the whole of the nose, the upper lip, and the palatine vault, hanging over the chin. One of my pupils, finding this flap cold, and attached to the other portions of the face, only at the two points, of which we have spoken, was proceeding to detach it entirely, and dress the wound, according to the indications it presented, when I arrived at the bedside of the patient. I laid aside the scissors of the surgeon, and after examining the wound, arranged every thing, for the purpose of employing the suture. I had some difficulty in removing the clots of blood which filled the nasal fossæ, and had been made hard by dust. I then detached the portion of the palatine vault, which adhered to the flap. It consisted of the anterior half of the superior alveolar arch. It had been separated from the remainder of the maxilla, on one side, between the canine and first molar, and on the other between the two molar teeth. I also detached from the flap, several pieces of the proper bones of the nose, and ascending process of the maxillary bones. The nose and lip were placed in their relative position, and I proceeded to reunite them with the surrounding parts, by the interrupted sature, commencing at the root of the nose, and descending successively on its sides, the edges of which were approximated by ten parallel points of the suture. A piece of fine linen dipped in

salt water, was applied over the whole extent of the triangle, which was formed by the wound. I introduced into the nostrils two portions of large gum elastic sounds, for the purpose of preserving their form and diameter. They were commanded on the exterior by means of a thread, which I inserted into their anterior extremities. Graduated compresses were placed on the side of the nose, and a retentive bandage terminated the dressings. I had the satisfaction to learn, on my return from Moscow, that this superior officer had perfectly recovered without any deformity. The cure of this case is remarkable, on account of the seriousness of the wound, and the few vessels which kept up a communication between the flap, and the integuments of the face. Vitality was restored to the nose, and its reunion with the edges of the wound was exact and perfect.—*Am Jour. of Med. Sciences.*

16. *Deviation of the Menses.*—The following curious instance of anomalous menstruation, has been communicated to the Medical Society of Paris, by M. Bonfils, of Nantz, and is published in the *Transactions Medicales*, for October last. A girl of the town, twenty-one years of age, nervous temperament, had long been subject to hysteric spasms, especially just before menstruation. From the period when her menses first appeared, which was at the age of nine years, she menstruated regularly, the discharge continuing about eight days each period. Almost always, however, especially when she was chagrined, menstruation was accompanied by a sero-sanguinolent discharge, and often one of pure blood from the left mamma and axilla. In June, 1824, she was admitted into the "*Maison de Secours*," of Nantz, in the fifth month of pregnancy, with a syphilitic affection. She stated that during the first month of utero-gestation, she had a copious and continual uterine discharge, which weakened her much. During the following months, she menstruated as usual, and the flow was always accompanied with a sanguinolent oozing from the left axilla and mamma. She was delivered at the seventh month of a living child. The lochia appeared and followed the usual course, and after six weeks the patient was transferred to the venereal wards. She was then put under treatment for the venereal affection. On the 26th of Feb. 1825, her menses re-appeared, at the same time there was a discharge of blood from the parts already indicated, and which uninterruptedly continued until the 6th of the following March. During this period when these parts were wiped dry, in a few seconds the skin, which was of a natural color, was observed to become covered, for the size of a five franc piece, with a multitude of extremely small drops of blood, which, enlarging and uniting, formed in four or five minutes, two or three large drops, which, running together, flowed from the body. All the other functions were perfectly performed, and the patient did not apparently suffer from the discharge.

On the 7th of March, the sanguineous discharge from the vagina still continued abundant, but that from the axilla was replaced by

another, which took place through the skin of the left flank, from the space of the size of a two franc piece. The patient had also a bloody taste in the mouth, and even expectorated some drops of that fluid. On the 8th and 9th, the discharge from the mamma continued, whilst that from the flank ceased, and another was established on the back, a little on the left, and towards the middle of the space, between the superior and internal angles of the scapulæ. The surface from which the discharge flowed, was two inches long, and one broad. The next day a discharge was established from a new place, viz. the epigastrium, the others continuing. The 12th, vaginal discharge considerably diminished, the flow from the the other parts, however, continued, and from the epigastrium became more abundant. The patient was leeched to the vulva, and the next day bled from the arm. On the 14th, the menstrual evacuation from the vagina increased, and the flow from the back and epigastrium ceased; that from the mamma continued. On the 15th, there appeared a slight oozing of blood from the lower and external portion of the left thigh. On the 16th, the menses had ceased towards midnight, and re-appeared at 3 o'clock the next afternoon. The discharges from the thigh and breast entirely ceased. The 17th, the menses were suppressed at 5 o'clock in the morning, and re-appeared at 3 o'clock in the afternoon as before. During the 18th, 19th, and 20th, there was a cessation of all the discharges. During the 21st, 22d, and 23d, the patient lost a few drops of blood from her left axilla, and during the night only, and the discharge appeared occasionally for the six succeeding days. The succeeding monthly evacuation was accompanied by only a small oozing from the left mamma, and which continued but eight days.

In August, 1826, this woman was again admitted into the "Maison de Secours," when she stated that for a year she had menstruated regularly and naturally, without having had any anomalous discharge. She was a third time admitted in June, 1827, for a syphilitic affection, when she stated that at the menstrual periods in April and May, her menses had been preceded, accompanied, and followed by a sanguinolent oozing from her axilla, the left mamma and flank; and in June, July, and August, the same circumstance occurred.—*Ib.*

17. *Anomalous Menstruation.*—The following case is recorded in the same Journal with the preceding, and was communicated to M. Bonfils, by M. Begin.—A young lady suffered suppression of her menses immediately after their first appearance in 1807, which was followed by swelling and suppuration of the glands of the neck. In 1815, she became affected with fluor albus, which was succeeded by an improvement in the health. In 1817, the leucorrhœa disappeared, and regularly afterwards, every month, the index finger of the left hand became tumefied, and covered with a violent tetter, from the surface of which, for three or four days, there oozed some drops of blood. This continued for three years, and the uterus resumed its menstrual functions, and the health of the patient was restored,—*Ib.*

18. ***Constituent parts of Cinchona.***—According to Mr. R. BATTLEY, the constituents of cinchona cordifolia, as determined by analysis, are, 1st, a free acid, easily disengaged by distilled water; 2d, quinine obtained by neutralizing the acid No. 1. with magnesia; 3d, quinine independent of that which is in combination with the acid No. 1.; 4th, bitter extractive; 5th, resin; 6th, gummy matter; 7th, gluten; 8th, tannin, combined with gallic acid; 9th, coloring matter; 10th, muriate of soda; 11th, sulphate of soda; 12th, iron; 13th, woody fibre.

Quinine is a bitter substance of the bark, forming characteristic salts with acids, and not containing any of the principles from No. 4 to 13; it appears to be an elementary substance.

In the preparation of the *liquor cinchonæ cordifoliæ*, it has been attempted to combine all the efficient properties of the bark, (excluding Nos. 6, 7, and 13, in which no active principle can be discovered,) and it is presumed that the object has been effected in that preparation.

The *sulphate of quinine* can only be partially efficient as a medicine, in consequence of the absence of all the properties above-mentioned, (from No. 4 to 13;) and the decided superiority of the *liquor cinchonæ* as a medicine, being fully admitted by many competent judges, it appears to me to be of importance to place that preparation under the attention of the profession at large.—*London Med. Gaz. December*, 1831.

19. *Lithotrity.*—About three years ago, M. Civiale had the gratification of relieving by this operation the venerable Dubois from a vesical calculus; and he has during the past winter achieved another triumph in the cure of M. Lisfranc, the celebrated surgeon of La Pitie. The cure is complete. The fact of two such men as Dubois and Lisfranc submitting to the operation of lithotrity in preference to lithotomy is a sufficient answer to the clamors of those who deny the utility of the former. That operation must now be admitted among the established resources of the art. That it will supercede lithotomy in all cases is not to be maintained; but that it is preferable in some seems now pretty well determined.—*Am. Jour. of Med. Sciences.*

20. ***Rare Luxation of the Patella.***—Dr. MARTIN has communicated to the Medical Society of Lyons an instance of luxation of the right patella, the inner edge of which bone was in contact with the anterior and middle portion of the articular surface of the femur, its external edge projecting anteriorly. It occurred in a young lady fifteen years of age, whilst turning in her bed. Dr. M. reduced the luxation by flexing the thigh on the abdomen, and then seizing the patella with both hands, and drawing it outwards, turned it back to its natural position. The patella in this subject was small, and the ligaments somewhat relaxed.

Some surgeons have denied the possibility of such a luxation. Jean Sue, however, communicated to the Royal Academy of Surgery,

in 1752, an instance of it, and another case is recorded by Dr. Wolff, in Rust's Magazine, for 1828. B. 27.—*Ib.*

21. *Ossification of the Pericardium.*—We find in our contemporary, the *London Medical and Surgical Journal*, for November last, an instance of this in a young man, twenty-seven years of age, who died of ascites, with peritoneal inflammation. The pericardium at its upper part, was completely ossified, forming a bony ring, enclosing the upper portion of the heart and extremities of the large vessels, an inch in breadth, and in some places a quarter of an inch in thickness. —*Am. Jour. of Med. Sciences.*

22. *Chrystallization of Perchloric Acid.*—M. Serullas states that the perchloric acid may be always crystallized by pursuing the following plan. Sulphuric and perchloric acid are to be successively introduced into a small retort, through a long tube; the beak of the retort is to be inserted into a tube curved and drawn to a fine point at the other extremity. Heat is to be applied, and when the liquid boils, and is kept in this state for some time, over a small fire, it will be seen to pass over into the tube and solidify there; the tube is to be kept cool with water; thick white fumes escape at the small end of it. The operation must be stopped before the mixture is discolored, and as soon as any liquid passes over which does not congeal. The experiment should always be performed with small quantities of the perchloric acid, say eight to ten drachms. Liquid perchloric acid may be concentrated by evaporation in a capsule, or what is better, in a small retort. The first portions that pass over are to be thrown away, as they are only water. M. Serullas has obtained it of the density of 1.65.—*Journ. de Chim. Med. and Journ. Phil. Col. Pharmacy*, 1832.

23. *Hydrocyanic Acid.*—M. Tilloy has succeeded in preparing a medical hydrocyanic acid, the effects of which do not vary, and which can be preserved for several years without any sensible alteration; this is

Cyanide of mercury - - - -	1 part,
Distilled water - - - - -	4 parts,
Alcohol at 30° Baume - - - -	4 parts.

Dissolve the cyanide of mercury in the water, by aid of heat, and then mix it with the alcohol; add a very slight excess of hydro-sulphuric acid; throw in sub-carbonate of lead; agitate several times, and distil in a water bath, so as to obtain all the alcohol saturated with the hydrocyanic acid.—*Ibid.*

24. *Cyanide of Potassium.*—According to M. Chevallier, no work hitherto published contains an exact process for obtaining the cyanide of potash in a pure state. The usual plan is to calcine the ferro-hydrocyanate of potassa, then to dissolve it in distilled water, filter and evaporate to dryness. The procedure is impracticable, for the cyanide of potassa decomposes water on coming in contact with it.

The result therefore, would be hydrocyanate of potassa, and in heating this, all the hydrocyanic acid escapes, and the residue will be merely potassa.

I have prepared this salt by calcining the ferro-hydrocyanate of potassa, then separating the cyanide of potassa from the quadricarburet of iron by pure alcohol, on distilling which, cyanide of potassa is obtained very pure and white.—*Ibid.*

25. *Perchloric Acid as a test for the Mineral Alkalies.*—From a paper on this subject by M. Serullas, it appears, that if a few drops of perchloric acid be added to a solution of potash and soda, a precipitate of perchlorate of potash is instantly formed, the perchlorate of soda, or the soda, if there be not an excess of acid used, remains in solution, whence they can be separated by concentrated alcohol, which, at the same time precipitates the small quantity of perchlorate of potash held in solution. A solution of perchlorate of soda, on the addition of potash, lets fall, a precipitate of perchlorate of potash. When perchloric acid is added to solutions of sulphate, nitrate, hydrochlorate, bromate, hydrobromate or hydriodate of potash, it forms a precipitate, and the acids become free, and may be separated by means of concentrated alcohol. From these experiments it appears, that the perchloric acid forms an almost insoluble salt with potash, requiring to dissolve it more than sixty times its weight of water at 15 –|– 0. 2. That soda forms a very deliquescent salt, exceedingly soluble in water and concentrated alcohol. 3. That the perchlorate of potash, on the contrary, is insoluble in alcohol. Finally, that by means of perchloric acid, the salts of potash may be decomposed, and the acid separated.—*Ibid.*

II. ANALYTICAL.

26. *Extirpation of the Parotid Gland.*—This formidable operation has been lately performed with partial success by Dr. Mott, of New York. S. B. of St. Domingo, applied to Dr. Mott in the latter part of June, of last year, for advice respecting a tumor about the size of an ordinary fist, involving nearly the whole of the left side of the face. The swelling had attracted the attention of the patient about six months before, and was apparently of a schirrous character, originating in the parotid gland.

The operation was performed on the 13th of July. The ex-

ternal carotid which, in consequence of the swelling of the integuments, lay three inches below the surface was tied just below the digastric muscle. An incision was next made from a point above the jugum, passing downwards in a semicircular direction to the occipital bone, and the incision above the artery carried upward to intersect this.

When the integuments were turned backward, the dark appearance of the gland shewed that the tumor, instead of being shcirrous, was melanotic. The cellular tissue was divided until the masseter muscle was exposed to view, from which it was separated for some distance; it was then separated from the jugum which had become carious from pressure; having detached it below from the mastoid and digastric muscles, an attempt was made to elevate the tumor, but this attempt produced such excruciating pain that the dissection was completed by cutting from above downwards. The portion between the mastoid and styloid processes was cautiously separated with the handle of the scalpel, and the portio dura divided by a quick motion of the knife. The division of this nerve produced very severe pain, and paralysed the muscles of the face.

Several arteries were tied, and, among others, the temporal poured forth a profuse retrograde hæmorrhage.

The wound healed kindly, except a small point which, on the 27th, began to give evidence of a return of the disease. On the 5th August, the re-united portions of the wound began to throw out a melanoid fungus, and tumors of the same character appeared on different parts of the face and scalp. The symptoms increased, an hepatic affection supervened, and he died on the 5th of September.

The practicability of this operation may now be considered as fully established. The success of the operator, in this case, so far as the removal of the gland is concerned, was complete, and the death of the patient is evidently to be attributed to constitutional disease.—*Am. Jour. of Med. Sciences.*

27. *Dislocation of the Astragalus and subsequent Extraction of the bone—Foot preserved.* By Thomas Wells, M. D., of Columbia, South Carolina.—Dr. G. W. L. taking a ride during his convalescence from an attack of bilious fever, dislocated the astragalus from its union with the os scaphoides, by imprudently leaping from his gig. Violent efforts were made to reduce the bone, which were followed by inflammation and ulceration, so as to expose the head of the astragalus, which soon after became carious.

Six months afterward he came to Columbia, his general health still impaired; the ancle swelled, occasionally painful, and admitting of little motion; the foot turned inwards and partially extended—an ulcer three-fourths of an inch in diameter exposed the carious head of the bone. He walked on crutches, and could sustain little weight on the injured foot.

Towards the latter part of July, too much exercise brought on a high degree of inflammation, with severe pain and general fever. Notwithstanding the most rigid antiphlogistic means, general and local, extensive suppuration took place, and the matter was discharged by puncture. To these symptoms succeeded hectic fever, with a copious purulent discharge, until the patient was very much reduced, the astralagus was found to be carious at several points, and its removal was decided upon as the only alternative for amputation, and was accordingly performed on the 18th of August.

An incision was made, commencing at the edge of the original ulcer, near the tendon of the common extensor of the toes, and carried a little backward and downward beyond the lower head of the fibula, and the bone carefully detached from its connexions. No vessel was divided sufficiently large to require a ligature, yet the wound presented a frightful appearance, the foot seeming to be nearly separated from the leg.

By suitable support the limb was kept in a position at right angles with the leg. He suffered little after the operation. The wound, which at first discharged copiously, granulated and healed kindly, subject only to occasional interruptions from derangement of the digestive organs, and by the end of Septem-

ber was perfectly healed. Twelve months after the operation Dr. W. again saw him the leg: was shortened about an inch, but the deficiency being supplied with a high heeled shoe, he walked without difficulty.—*Ib.*

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28. *Tracheotomy.* By Dr. Wells.—On the 16th of September, a child, four years of age, suffered a water-melon seed to pass into the trachea. Six days after the accident he was brought to Dr. Wells, who found that the breathing had become permanently difficult and croupy, the intervals between the convulsive paroxysms short, the face livid and the pulse small and too frequent to be numbered.

The operation was decided upon immediately, and the patient having been placed in a proper position, an incision was made along the median line, from a little below the cricoid cartilage to the upper end of the sternum, a vein of considerable size, which was divided and bled profusely, was secured by a ligature. The tracheal rings were divided to the extent of three-fourths of an inch, and the parts held asunder by two slender instruments. The air and bloody foam rushed from the opening with great violence, and the seed was thrown out over the head of one of the attendants, to the distance of three yards. The wound was closed by sutures and adhesive straps, and irritation allayed by anodynes combined with antimonials. Notwithstanding the dressings, the air continued to pass by the wound for three or four days, after which the wound soon healed. The operation was followed by no other inconvenience than a temporary hoarseness.

Dr. W, thinks the operation should always be attempted, provided the offending body continues moveable in the trachea, a state of things indicated by paroxysms of difficult breathing. He also thinks laryngotomy preferable to tracheotomy.

This operation has been lately performed with a degree of skill that merited a favorable termination, by Dr. McCulloch, of Mount Pleasant, in the vicinity of this city. The patient, a

child about two years of age, was playing upon his back with some grains of corn in his mouth, when one of them slipped into the trachea. The violent paroxysms of convulsive breathing occurring at short intervals, induced the parents to submit the child to the operation, and it was accordingly performed on the second day. Laryngotomy was performed without difficulty, no hæmorrhage occurring to impede the operation, but the foreign body could not be found. The patient lived six days after the operation, and after death, the corn was found in the trachea imbedded in mucus.

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29. *Hypertrophy of the Tongue.* By Dr. Wells.—A girl, six years of age, was brought to Lexington for professional assistance, in May, 1829, with an enormous enlargement of the tongue.

The following are the dimensions and condition of the tongue at the time: length as it hung down over the chin from the superior incisors to its apex, 2 1-2 inches; breadth from one angle to the mouth of the other, a little more than two inches. The structure was more dense than natural; the upper surface smooth; the lower covered with the cicatrices of sores from the pressure of the teeth. The increase of size within the mouth had been less marked. She had formerly suffered much from inflammation and ulceration of the mucous membrane of the tongue which had been obviated by keeping it covered with cloth bags, but if these were omitted for a few days, the surface immediately became very sore. The front teeth had been displaced by the pressure of the tongue, and the anterior portion of the upper maxillary bone slightly curved upward, and of the lower jaw still more downward, so that while the back teeth were closed, the front teeth were an inch asunder.

This state of things was brought about by repeated attacks of glossitis.

The first proposition of Dr. Wells was to remove the protruding part of the tongue by one stroke, but the unwillingness

of the patient and her friends to submit to this, induced him to propose the ligature.

The child having been freely purged and kept on a low diet for several days, a seton needle half an inch broad was carried through the tongue from below upward and obliquely backward so as to give the remaining portion of the tongue a pointed appearance. When the ligatures were firmly tied, the flow of blood which at first was considerable, ceased. Twenty hours afterward the strangulated portion was removed by the bistoury. Considerable irritation followed the application of the ligature, requiring antiphlogistic treatment, which soon ceased after the removal of the strangulated portion. The wound was dressed with lint wet with a solution of chloride of lime, and soon healed. In five or six weeks the patient had acquired perfect command of the lips and jaws, and could articulate the letters of the alphabet, and when Dr. Wells saw her a few months afterward, the jaws were restored to their natural shape, all the teeth coming in contact when the mouth was closed.

Dr. W. states that there is but one case of this kind on record in in the journals of this country, viz: one reported by Dr. Harris in a late No. of the American Journal. This case, however, differed in some important particulars, especially in the fact of the enlargement at the commencement not being of an intermittent character, and in its being accompanied with a change of structure, which was not the fact in the case of Dr. Wells.

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30. *Wound of the Abdomen and Section of the Intestinal Canal successfully treated on the Plan of Ramdohr.* By Zina Ritchie, U. S. Army.—A citizen of the Cherokee nation, west of the Mississippi, was stabbed in the abdomen, on the 22d June, 1831, with a butcher-knife, the knife entering just where the spermatic cord passes out through left internal ring, and passing upward and inward, making an incision of about three inches in

extent, and permitting the escape of several feet of the intestines.

On examination the ileum was found to be divided diagonally, and separated for the space of two inches from the mesentery —the fold of intestine in contact with this, was cut two-thirds across, two other convolutions was transpierced, and a considerable wound in the dissection of the circular fibres made in the left iliac colon.

Two drams of tincture opii. having been administered to relieve the sinking condition of the patient and three branches of the mesenteric artery, having been secured by thread ligatures, which were cut close to the knots, the dissevered ends of the ileum were brought together by placing the lower portion within the upper, and securing them in that portion by three sutures. The other intestinal openings were closed by continued sutures; the ends of which were left long, and placed within the intestine. The intestines were washed clean with milk and water and returned within the abdomen. Some portions of the epiploon injured by the knife, were cut away, and the external wound closed by the continued suture. Anodynes were occasionally administered to relieve pain or procure rest, the patient kept on a low diet and occasionally bled. Injections were frequently administered, but we have no mention of an evacuation of the bowels until the 28th, six days after the accident, when a natural discharge took place.

On the 2d of July there was a discharge of coagulated blood and pus by stool. On the 11th the external wound was healed, and the patient began to walk about.

In December he performed a considerable journey on horseback without inconvenience, but was compelled to wear a pad and belt to prevent hernia.

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31. *Spontaneous Evolution of the Fœtus.* By S. C. Snyder, of Charleston, Va.—When Dr. S. first saw the patient, the labor had

commenced, and the liquor amnii escaped. The child was found with the left shoulder resting upon the left acetabulum and the body stretched across the pelvis of the mother. After some delay in consequence of waiting for a consulting physician, the os uteri being well dilated and the funis still pulsating, an attempt was made to turn the child, but the hand having been introduced into the vagina, so instantaneous and violent were the contractions of the uterus on the least attempt to move the child, that the consultation, apprehensive of a rupture of the uterus, determined to wait for a spontaneous evolution. That this would take place they inferred from the capacity of the pelvis, the size of the child, the activity of the womb, and the health of the mother.

Soon after the attempt to turn, the funis ceased to pulsate, and the shoulder and arm, not long after were protruded entirely beyond the vagina, and as the left side and pelvis of the child descended the long diameter of the mother's pelvis, they gradually turned so that when the child became visible, its back as well as side presented, (the arm and shoulder, however, still remaining without). The index fingers were now passed around the groin, and the pelvis and lower extremities easily extracted; the head followed; soon after, the placenta was easily removed, but sufficient hæmorrhage followed to call for the tampon, cold wet clothes, and a large dose of sach. saturni.

The labor continued about ten hours after Dr. S. first saw the patient, with a constant bearing down of the womb, such as occurs after the operation of ergot.

Can it ever be proper for a practitioner, under the circumstances enumerated above, to attempt turning without venesection, and especially without the administration of a large anodyne? Could it be justifiable, under circumstances of such excessive action of the uterus, to wait ten hours for the spontaneous evolution of the fœtus with the knowledge of its certain death?